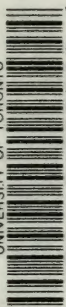


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SOUTH NIGERIAN PLANTS



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CATALOGUE OF THE PLANTS

COLLECTED BY

MR. & MRS. P. A. TALBOT

IN THE

OBAN DISTRICT  
SOUTH NIGERIA

BY

A. B. RENDLE, M.A., D.Sc., F.R.S.

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ASSISTANTS IN THE DEPARTMENT

S. MOORE, F.L.S., AND OTHERS

WITH SEVENTEEN PLATES

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## PREFACE

THE following account of the plants of the Oban District of South Nigeria has been drawn up from the collections made by Mr. and Mrs. P. Amaury Talbot in the years 1909 to 1912, during Mr. Talbot's period of Government service in the District, and presented by them to the Museum. Mrs. Talbot also made a very large and beautiful series of drawings of the plants, reproductions of which she proposes to publish in a separate book.

The plants have been determined and the novelties described by members of the Department of Botany, with the assistance of Mr. S. Moore in various orders, Mr. H. N. Ridley who has worked out the Zingiberaceæ and Marantaceæ, and Miss A. Lorrain Smith who has determined the Lichens. For descriptions of a few new species I am indebted to Mr. Sprague and Mr. Hutchinson of the Herbarium of the Royal Gardens, Kew. The authorship of each portion of the work is indicated exactly in the text.

Mr. Talbot has supplied a short account of the district and of the general character of its vegetation; and notes on many of the plants by Mr. and Mrs. Talbot are incorporated with the descriptive matter.

A. B. RENDLE.

DEPARTMENT OF BOTANY,  
*April, 1913.*





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## INTRODUCTION

THE following notes on the general character and vegetation of the Oban district have been kindly supplied by Mr. Talbot.

The Oban district of South Nigeria\* lies within the bend of the Cross River at a distance of 40 to 100 miles from the Gulf of Guinea. It is bounded on the East by the German Cameroons, of which it is, botanically speaking, an offshoot, though apparently exceeding its neighbour in the luxuriance of its vegetation. Throughout the length and breadth of the land hardly a level spot is to be found. The average height above the sea-line varies from about 300 to 900 feet, with masses of hills rising towards the centre into a clearly marked watershed, nearly 4000 feet high. The greater number of these hills have been climbed by us, but height seemed hardly to influence the luxuriance, or even type, of vegetation.

The rocks of the district are very ancient and consist mostly of gneiss or granite, pierced by veins of iron ore and other minerals. The weathering of these has produced a soil very favourable to growth. This, mixed with the deep accumulation of rich vegetable humus and mould in the dense shade of these tropical forests, forms, in the warm damp climate, a kind of vast natural forcing bed, from which spring an almost inexhaustible variety of flowering plants and trees. These grow up with such incredible rapidity that I have found it difficult to recognise sites, which were under cultivation five years before. The land is drained by a close network of rivers, which meander through the deep green of the "bush," like the veins of some giant leaf, or leap down the hill-sides in a series of cascades and waterfalls.

The forests of Oban are usually described as within the evergreen belt, but, though evergreens predominate, more careful study discloses the presence of a very large proportion of deciduous trees, many of which burst into leaf and flower twice

\* A map of the district will be found with Mr. Talbot's communication to the Geographical Journal (xxxvi. 637).



every year. Several are even known to bloom four times in the year, while on the other hand some cauliflorous trees only blossom every two or three years. Natives, whose information in other cases proved trustworthy, declared that certain ones only flower once in seven years.

The number of different species to be found in these forests is immense and may be computed to average at least 400 to 500 distinct species to the square mile. Among these are to be found a large number of valuable economic trees, such as cam-wood, ebony, rubbers and mahoganies of enormous size, scented and otherwise. The state of age gradation among all such trees is more satisfactory too in this district than that in the greater part of the Protectorate.

The annual rainfall, carefully kept during my tenure of office, averages 175 inches, and the humidity may be a contributory cause to the extraordinary large number of cauliflorous trees. The unusual rainfall and the heavy dews, which last all through the dry season, act too as protective agents in rendering impossible destruction by forest fires.

A very considerable part of the district has at one time or other been under cultivation. The system of farming consists in roughly clearing the land in January and February, by cutting and burning the smaller growth, while the great trees are left standing. This has, however, affected the type of forest less than would otherwise have been the case, owing partly to the scanty population, about four to the square mile, and also to the large number of trees, which, according to the superstition of the people, must neither be destroyed nor planted, but left untroubled by human interference. A considerable part of the land may be regarded as virgin bush, and is perhaps the only important survival of that vast primeval belt, which once extended over the greater part of South Nigeria.

In order to be convinced that the forests of Oban are to a great extent true primary forest one has only to leave a native path in the remote parts of the interior and cut one's way for a short distance through the tangle of lianes, often of the girth of our Northern tree-trunks, which hang between giant boles, 200 to 300 feet high, and, in the case of cotton trees, over 80 feet in circumference. Once the path has been lost sight of, one may wander for days without coming across a trace of human habitation.

P. AMAURY TALBOT.

The collection includes 1,016 species and varieties, 195 of which are new; there are nine new genera. The new genera are *Alphonseopsis* and *Dennettia* in the order Anonaceæ, the former allied to the Indian genus *Alphonsea*, the latter to *Melodorum*; *Crateranthus*, a genus of Myrtaceæ intermediate in structure between *Napoleona* and the tropical South American *Asteranthos*; *Afrohamelia* (Rubiaceæ) most nearly allied to the tropical American *Hamelia*, and, in the same order, *Dorothea* and *Diplosporopsis*, new members of the tribe Gardenieæ, and *Globulostylis*, the affinity of which is with *Curiera* in the tribe Vanguerieæ; *Scyphostychnos* (Loganiaceæ) closely allied to *Strychnos*; *Talbotia*,\* a member of the tribe Justicieæ in the order Acanthaceæ; and *Amauriella*, a member of the subfamily Philodendroideæ in Araceæ.

Of the new species seven belong to the order Anonaceæ, three to Violaceæ, three to Guttiferae, one to Malvaceæ, six to Sterculiaceæ, including four new *Colas*, two to Geraniaceæ, two to Meliaceæ, two to Olacaceæ, one to Celastraceæ, three to Sapindaceæ, three to Anacardiaceæ, five to Leguminosæ, one to Rosaceæ, eight to Myrtaceæ six of which belong to the genus *Napoleona*, three to Melastomaceæ, thirty-four to Rubiaceæ, one to Ebenaceæ, one to Oleaceæ, twelve to Apocynaceæ, four to Asclepiadaceæ, nine to Loganiaceæ, one to Convolvulaceæ, one to Pedalineæ, twenty-one to Acanthaceæ, four to Verbenaceæ, three to Aristolochiaceæ, three to Laurineæ, two to Euphorbiaceæ, twenty to Orchidaceæ, two to Liliaceæ, and three to Araceæ.

A few specimens have been included in the enumeration which were collected on a journey through Nigeria and the North Cameroons to the Bornu Country and Lake Chad; the locality of these is indicated in each case. A full list of the plants collected on this journey forms an Appendix to Miss O. Macleod's "Chiefs and Cities of Central Africa."

Mr. Talbot refers to the extraordinary large number of cauliflorous trees and special attention was paid to these when collecting, and Mrs. Talbot has also made careful coloured drawings of the flowers. Many of them are new. Such are several species of *Cola*, *Napoleona* and *Drypetes*, species of *Tetrastemma*, *Omphalocarpum*, *Diospyros* and others.

\* This is equivalent to *Afrofittonia* Lindau in Engl. Jahrb. xlix. 406, published March 28, 1913, and thus too late for notice in this memoir.

A valuable discovery from an economic point of view is that of *Poga oleosa* Pierre (Rhizophoraceæ), hitherto known only from the Gaboon, the seeds of which are remarkably rich in oil.

As indicated in Mr. Talbot's note the district adjoins the Cameroons and is botanically an extension of the evergreen rain-forest area of that district. The systematic list shews that the flora is practically identical with that of the Cameroons; a proportion approaching half the plants collected has hitherto been known only from that area. Apart from this endemic or Cameroons element there is a strong representation of what may be called the Gulf of Guinea flora, that is of species more or less widely distributed from Sierra Leone to the Gaboon. The more Southern Congo-Angolan element is much less marked and the collection contains comparatively few plants representing a general tropical African distribution.

In the determination of the plants considerable help has been obtained from the rich tropical African material in the Herbarium of the Royal Gardens, Kew; our thanks are due to the Director for some determinations in the order Euphorbiaceæ, and also to members of the Staff for advice kindly given in connection with other orders. Specimens of a large proportion of Mr. and Mrs. Talbot's plants have also been presented to Kew.—[A. B. R.]



# FLOWERING PLANTS

## DICOTYLEDONS

### POLYPETALÆ

By EDMUND G. BAKER, F.L.S.

#### ANONACEÆ.

THE collection contains a remarkable number of curious and interesting members of this family. There are two new genera, *Dennettia* and *Alphonseopsis*. The former belongs to the tribe Xylopieæ and is allied to *Melodorum*, the latter is allied to the Indian genus *Alphonsea*. *Uvaria obanensis* sp. nov. is a showy plant with large flowers generally in fascicles of three; and *Uvaria anonoides* sp. nov. is closely allied to *U. latifolia* Scott Elliot. There are good specimens of *Pachypodanthium Staudtii* Engler & Diels, which has not been previously recorded for Nigeria. *Unona obanensis* sp. nov. is closely allied to *U. hirsuta* Benth.; and *U. Millenii* Engler & Diels was previously known only from Lagos.

There are four species of *Monodora* and two species of *Tetrastemma*; one of the latter is probably *T. Solheidii* De Wild., previously known from the Congo, the other has much larger flowers (4-5 cm. long), but we await better material.

*Uvaria obanensis* Bak. fil. sp. nov. Frutex scandens, ramulis teretibus; foliorum petiolo brevi supra canaliculato, lamina oblonga subcoriacea adulta præter costam glabra apice acuta basi rotundata vel levissime subcordata nervis lateralibus utrinque 9-13 ante marginem arcu intramarginali conjunctis nervis secundariis tenuibus subtus reticulatis; floribus magnis in fasciculos sæpiissime 3-flosos et laterales dispositis; bracteis fusco-tomentellis pedicellos amplectentibus; sepalis crassis late ovatis longitudinaliter striatis; petalis crassis concavis semiorbicularibus basi subcordatis interioribus breviter unguiculatis; staminibus numero-

sis connectivo ultra thecas lineares producto; *carpellis* numerosis extus pilosis; *fructu* haud viso.

Oban; nn. 1579, 1603.

*Leaves* 15–20 cm. long, 5·5–7·0 cm. broad; petioles about 3 mm. long. *Sepals* thick, 9–10 mm. long  $\pm$  11 mm. broad. *Petals* 6, 20–30 mm. long and about as broad. *Stamens*  $\pm$  3 mm. long. *Carpels*  $\pm$  5 mm. long.

Noticeable on account of the subcoriaceous, almost glabrous, oblong leaves, and the lateral fascicles of generally 3 flowers, with thick, suborbicular petals 20–30 mm. long and broad.

[Central petals dull orange, three outside petals dull apricot, markings deepest wine-red.—P. A. T.]

*Uvaria anonoides* Bak. fil. sp. nov. Frutex repens (fide cl. detect.), ramulis novellis fusco-tomentosis; *foliis* ellipticis vel oblongo-ellipticis vel oblongo-ovatis superne praeter costam nervosque fere glabris subtus pallidioribus apice acuminatis basi rotundatis nervis lateralibus 9–12 ante marginem arcu intramarginali conjunctis nervis secundariis tenuibus, foliorum petiolo brevi superne canaliculato; *floribus* mediocribus solitariis; *pedunculo* stricto in sicco longitudinaliter striato; *sepalis* alte connatis segmentis crassiusculis; *staminibus* numerosis connectivo crasso thecas superante; *carpellis* hirsutis staminibus parum longioribus stigmatibus dilatatis.

Oban; n. 1558.

*Leaves* 8–15 cm. long, 50–75 mm. broad; lateral nerves and midrib below conspicuous. *Sepals*  $\pm$  5–7 mm. long. *Petals* concave, suborbicular, 12–13 mm. long  $\pm$  15 mm. broad. *Stamens* 2·5 mm. long.

Closely allied to *Uvaria latifolia* Engler & Diels (*Anona latifolia* Scott Elliot).

<i>U. anonoides</i> Bak. fil.	<i>U. latifolia</i> Engler & Diels.
<i>Leaves</i> 8–15 cm. long, 5–7 cm. broad.	<i>Leaves</i> 2–3 dm. long, 7–1 dm. broad.
<i>Calyx</i> , total diameter 12–14 mm.	<i>Calyx</i> , total diameter $\pm$ 16 mm.
<i>Petals</i> 12–13 mm. long, $\pm$ 15 mm. broad.	<i>Petals</i> 15–20 mm. long, 18–22 mm. broad.
<i>Stamens</i> 2·5 mm. long.	<i>Stamens</i> 4–5 mm. long.

#### ALPHONSEOPSIS Bak. fil. gen. nov.

Flores hermaphroditi. Calyx parvus, breviter cupularis, triangularis, 3-sepalus, petalis multo brevior. Petala 6 biseriatis valvata, inter se subaequalia, ovata, adscendentia, crasse coriacea. Stamina  $\alpha$  arete imbricata, receptaculo depresso subhemisphaerico insidentia, crassiuscula, connectivo ultra loculos conspicue truncato; pollinis grana inter se libera. Carpella 3–4, inter se libera, stigmatibus subsessili pileato-capitato, ovulis circ. 22 ventralibus biseriatis.

**Arbuscula.** Folia breviter petiolata, ampla, pergamacea. Flores inter minores, in axillis solitarii, pedunculis abbreviatis validis bracteis imbricatis onustis.

The affinity of this genus is with *Uvariastrum* Engler, which has flowers with three large sepals, outer petals much longer than the inner, and bilobed, verrucose stigmas. It is also near the Indian genus *Alphonsea* Hook. f. & Thoms., but its calyx and the connection of its stamens are quite different.

**Alphonseopsis parviflora** sp. unica. Arbuscula; foliis oblongis vel ellipticis glaucis superne glabris basi cuneatis apice acuminatis nervis lateralibus 9-11 adscendentibus costa superne impressa nervis secundariis inconspicuis foliorum petiolo brevissimo; floribus ex nodis ramorum ortis parvisculis; calyce arcte connato crassiusculo; petalis valvatis, tribus exterioribus crassiusculis extrinsecus sericeis, tribus interioribus parum minoribus concavis crassiusculis; staminibus numerosis apice dilatatis extrorsum thecas gerentibus, thecis linearibus longitudinaliter dehiscensibus; carpellis paucis (saepe circ. 4) ovulis pluribus biseriatim dispositis. (Pl. l.)

Oban; n. 1607.

A small tree about 5 metres high (*vide* Mrs. Talbot). Leaves 18-23 cm. long, 4.5-7.0 cm. broad; petiole about 4 mm. long. Pedicels thick, short, about 4-6 mm. long. Bracts several, imbricating. Outer petals 3, ovate, sessile, 8-9 mm. long, inner petals 3,  $\pm$  7 mm. long.

[Sepals pale snuffy bronze, petals cream, leaves on the back pale duck's egg blue.—P. A. T.]

**Uvariastrum Zenkeri** Engler & Diels var. nov. **nigritanum** Bak. fil. Ramuli cinereo-corticati; foliis pergamaceis oblongis acuminatis quam iis typi minoribus petiolo brevi suffultis; floribus quam iis typi minoribus; sepalis ovatis acuminatis crassiusculis.

Oban; n. 1341.

Tree about 15 metres high. Leaves oblong or oblong-obovate, acuminate, 9-13.5 cm. long, 3-4 cm. broad; petioles  $\pm$  2 mm. long. Sepals  $\pm$  17 mm. long.

Differs from the type in the smaller leaves, and the smaller flowers with thicker sepals which arise from the trunk and branches.

**Cleistopholis albida** Engler & Diels var. nov. **longipedicellata** Bak. fil. Caulis volubilis; foliis quam in typo majoribus oblongo-ovatis subtus glaucis; floribus longiuscule pedicellatis; petalis exterioribus cordato-ovatis; fructu oblongo 3-4-plo longo quam lato iis *Popowiae obovatae* Engler & Diels subsimili.

Oban; nn. 1559, 1677.

Leaves oblong or ovate-oblong, acuminate, 8-15 cm. long, 3.0-5.3 cm. broad. Pedicels slender, 2.0-3.0 cm. long. Outer petals

$\pm 10$  mm. long. *Fruit* with pedicel 2.0-2.5 cm. long, oblong, 5.6 mm. diam.

Differs from the type by the larger leaves, the flower-pedicels and the longer outer petals.

[Sepals bronzy-green, outside petals pale cream, inside shaded, mauve at base.—P. A. T.]

The petals of n. 1677 are somewhat narrower and more pointed.

**Unona obanensis** Bak. fil. sp. nov. Arbor sec. cl. detectorem ramulis fusco-hirsutis; *foliorum petiolo* brevi, *lamina* membranacea supra glabrescente subtus praecipue ad nervos fusco-hirsuta nervis lateralibus utrinque 9-12 nervis secundariis subtus prominulis oblonga vel oblongo-obovata apice subito in acumen attenuata basi cordata; *pedunculo* subterminali vel laterali fusco-hirsuto saepissime 1-floro; *bracteis* latioribus quam longis semiamplexicaulibus hirsutis; *sepalis* ovatis hirsutis basi cordatis quam petalis exterioribus 3-4-plo brevioribus; *petalis* exterioribus majusculis crassis fusco-hirsutis late ovatis petalis 3 interioribus crassis glabris quam petalis exterioribus subduplo minoribus; *staminibus* numerosis connectivo ultra thecas dilatato; *carpidiis* numerosis ovario fusco-hirsuto in stylum brevem sursum crassiores attenuato. Species ad *U. hirsutam* Benth. valde accedens differt foliis angustioribus, bracteis latioribus.

Oban; nn. 1246, 1323.

*Tree* 20-25 metres (*vide* Mrs. Talbot). *Leaves* 10-15 cm. long, 3.0-4.5 cm. broad; *petiole* 2-3 mm. long. *Sepals*  $\pm 7$  mm. long. *Outer petals* concave,  $\pm 23$  mm. long; *inner petals* 13-15 mm. long. *Carpels*  $\pm 2$  mm. long, style shorter than the ovary.

This belongs to the series in which the inner petals are similar to the outer, but smaller.

Closely allied to *U. hirsuta* Benth. from Fernando Po, but differs in the narrower leaves and semiamplexicaul, broad, hairy bract situated towards the base of the peduncle.

[Bark dull grey lichen-green. Two sepals bronze, four petals white. Stamens numerous, anthers orange, filaments white. Small buds dull pink, afterwards bronze.—P. A. T.]

**Popowia nigritana** Bak. fil. sp. nov. Frutex scandens sec. cl. detectorem, ramulis tenuibus teretibus; *foliis* oblongis vel oblongo-oblancoelatis apice acutis basi cuneatis nervis lateralibus utrinque 6-7 nervis secundariis tenuibus costa superne impressa, *foliorum petiolo* brevi; *floribus* axillaribus pedunculis dichotome cymosis; *sepalis* triangularibus parvis fusco-tomentosis; *petalis* exterioribus majoribus concavis crassis incurvatis fusco-tomentosis interioribus angustioribus; *staminibus* 9 filamentis in connectivum amplum pediforme centrum versus floris horizontaliter protensum dilatatis thecis minutis infra connectivi prolongationem dorsalibus; *carpellis* 6-7, stilo brevi.

Oban; n. 1550.

*Leaves* very slightly pubescent, paler below, 8-12 cm. long,



3-4.5 cm. broad; petiole 3-5 mm. long. *Pedicels* 7-10 mm. long. *Outer petals*  $\pm$  7 mm. long,  $\pm$  4 mm. broad; *inner petals*  $\pm$  2 mm. broad. *Stamens*  $\pm$  1.5 mm. long, much dilated. *Carpels* with style 2.0-2.5 mm. pubescent.

Allied to *Popowia foliosa* Engler & Diels, but differs by the narrower leaves, shorter cymes and larger petals.

[Three sepals pale bronze, six petals pale creamy-yellow, stamens in three groups of three, centres cream shading into dark brown.—P. A. T.]

**Hexalobus monopetalus** Engler & Diels var. **parvifolius** Bak. fil. in Macleod, "Chiefs and Cities of Central Africa," 301. Frutex vel arbor parva ramulis adultis cinereo-corticatis; *foliorum petiolo* brevissimo, *lamina* chartacea vel subcoriacea oblonga supra nitida subtus fere glabra quam in typo minore; *floribus* ad axillas solitariis subsessilibus; *petalis* anguste lanceolatis corrugatis basi connatis; *carpellis* 3-4.

French Ubangi, Lere to Ham.

*Leaf*, petiole 1-2 mm. long; *lamina* 4-6 cm. long, 15-21 mm. broad. *Sepals* 6 mm. long; *petals* 18-20 mm. long.

Differs from the type in having smaller leaves and fewer carpels, 3-4 instead of 4-6.

M. Chevalier collected the type on his Chari-Lake Chad Expedition near Kaga Mibra (n. 6486).

### DENNETTIA Bak. fil. gen. nov.

Calyx in alabastro minimo, cupuliformis, deinde in sepala 2 vel rarius 3 semiorbicularia basi connata rumpens. Petala 3, crassa, concava, libera, uniseriatim valvata, aequalia vel parum inaequalia, quam sepala plane longiora. Stamina parva, numerosissima, sessilia, connectivo ultra thecas lineares vix producto truncato, antheris rimis linearibus dehiscentibus. Carpella 15-20, libera, stylo continuo truncato, ovulis pluribus biseriatis.

Arbor mediocris. Folia alterna, chartacea, foliorum petiolo brevi. Flores hermaphroditi, solitarii vel bini, magnitudine mediocri, brevipedunculati, ex ramis adultis orti. Receptaculum convexum.

**Dennettia tripetala** sp. unica. Arbor mediocris sec. cl. detect. ramulis cortice cinereo tectis; *foliorum petiolo* brevi superne canaliculato *lamina* oblonga vel oblongo-lanceolata chartacea superne nitida apice acuta basi cuneata nervis lateralibus tenuibus 10-12 ante marginem arcu intramarginali conjunctis, nervis secundariis tenuibus subtus reticulatis; *floribus* magnitudine mediocri solitariis vel binis pedunculatis ex ramis adultis ortis; *calyce* e sepalis semiorbicularibus 2 vel rarius 3 composito; *petalis* 3 crassis concavis extus fusco-tomentosis; *staminibus* parvis numerosis connectivo ultra thecas lineares vix producto;



*carpellis* 15–20 extrinsecus cinereo-tomentosis ovulis pluribus ventrale biserialiter dispositis. (Pl. 2.)

Oban; n. 1496. South Nigeria, *Dennett*, n. 44 (Herb. Kew.)

*Leaves* 9–14 cm. long, 4·5–6 cm. broad; lateral nerves not conspicuous, glabrous except the midrib; petioles 3–4 mm. long. *Peduncles* short. *Petals* 3, uniseriately valvate, 10–11 mm. long. *Stamens* about 1 mm. long.

A very curious and interesting tree, at once distinguished by the 2 rarely 3 sepals, the 3 rather thick, concave, valvate petals, the numerous small stamens with the connective very slightly produced and the 15–20 carpels with the ovules biserially arranged.

Named in honour of Mr. R. E. Dennett, who first collected this tree in Southern Nigeria and whose specimens are in the Kew Herbarium.

The alliance of this genus is with *Thonnera*, but the flowers are hermaphrodite and not on long peduncles, and the receptacle is a different shape. Mr. H. N. Ridley, who kindly examined this plant, considers that it should be placed in the Group *Xylopiæ* next to *Melodorum*. It is also allied to certain rather abnormal species of *Anona* of the Sect. *Attæ*, especially *A. echinata* Dunal.

## VIOLACEÆ.

*Alsodeia crassifolia* Bak. fil. sp. nov. Frutex ramulis teretibus; *foliorum petiolo* mediocri, *lamina* papyraceo-coriacea glabra magna elliptica vel oblongo-ovata vel ovato-lanceolata apice acuminata basi late cuneata margine integro nervis lateralibus 10–12 ante marginem arcu intramarginali conjunctis superne nitidis subtus pallidioribus; *floribus* racemoso-paniculatis, inflorescentiis petiolo longioribus; *bracteis* lanceolatis; *sepalis* ovatis concavis petalis brevioribus; *petalis* oblongis margine ciliatis; *staminum tubo* quam antheris breviori, connectivo ultra thecas producto; *ovario* glabro stylo tereti glabro columnari; *capsula* triloculari.

Oban; n. 1260.

*Shrub* 2–3 metres high (*fide* Mrs. Talbot). *Leaves* 15–27 cm. long, 6–10·5 cm. broad; petioles 2·5–4 cm. long. *Panicles* 2·5–6 cm. long. *Sepals*  $\pm$  3 mm. long. *Petals*  $\pm$  4·5 mm. long. *Staminal tube* short; filaments short. *Anthers* appendaged; *connective* produced into an ovate-triangular appendage. *Capsule* 20–22 mm. long.

This is probably identical with the plant collected by Mann in the Gaboon and referred to *A. Welwitschii* Oliver in the Flora of Tropical Africa. It differs in several points from *Welwitsch*, n. 882, from Golungo Alto.

[Petals dull yellow.—P. A. T.]

*Alsodeia obanensis* Bak. fil. sp. nov. Arbuseula ramulis cortice cinereo tectis; *foliorum petiolo* mediocri, *lamina* membranacea apice acuminata basi in petiolum alatum angustata nervis lateralibus utrinque 9–15 ante marginem arcu intramarginali

conjunctis nervis secundariis tenuibus; *floribus* e nodis ortis pedicellatis; *sepalis* parvis ovato-triangularibus; *petalis* lanceolatis per anthesin reflexis; *connectivo* ultra thecas producto; *antheris* appendiculis 2 subulatis instructis staminum tubo fere obsoleto; *style* filiformi; *capsula* extrinsecus reticulata.

Oban; n. 606.

A small tree about 6-7 metres high (*fide* Mrs. Talbot). *Leaves* 14-30 cm. long, 4.5-10 cm. broad. *Sepals* about 1.5 mm. long. *Petals* narrow,  $\pm$  5 mm. long. *Anthers* slightly connate, sessile, or nearly so.

Allied to *A. cauliflora* Oliver and a member of the subgenus Petalandra, Sect. 2, Synandra of Engler.

[Petals cream, centres bright yellow.—P. A. T.]

**Alsodeia Talbotii** Bak. fil. sp. nov. Frutex ramulis teretibus pubescentibus; *foliorum petiolo* brevi, *lamina* membranacea subtus pallidiora oblonga apice acuminata margine leviter serrulata basi cuneata nervis lateralibus utrinque 10-13 ante marginem arcu intramarginali conjunctis nervis secundariis tenuibus; *floribus* paniculatis terminalibus; *bracteis* lineari-lanceolatis; *sepalis* ovatis quam petalis brevioribus margine ciliatis; *petalis* ovato-lanceolatis margine ciliatis; *staminum tubo* antheris fere aequilongo, connectivo ultra thecas producto; *ovario* subglobose pubescente, *style* claviformi quam ovario circ. 3-plo longiori.

Oban; n. 478.

*Shrub* about 2 metres high (*fide* Mrs. Talbot). *Leaves* 12-20 cm. long, 3.5-5.0 cm. broad; petiole 5-6 mm. long. *Sepals*  $\pm$  6 mm. long. *Petals*  $\pm$  8 mm. long. *Connective* produced into a flat lanceolate appendage. *Style*  $\pm$  5 mm. long. *Capsule* not seen.

Allied to *A. Johnstonii* Stapf from Liberia.

## GUTTIFERÆ.

**Pentadesma nigritana** Bak. fil. sp. nov. Verisimiliter arbor ramulis cortice nigrescente; *foliis* quam iis *P. butyraceae* Sabine minoribus cuneato-oblanco-latis vel cuneato-obovatis apice breviter acutis integerrimis petiolo brevi superne canaliculato suffultis nervis lateralibus crebris parallelis; *floribus* apicem versus ramulorum paucis pedunculatis; *sepalis* 5 imbricatis crassis carnosissimis ovatis 2 exterioribus quam interioribus minoribus; *petalis* 3 crassis sepalis interioribus subsimilibus basin versus interne carinatis; *staminibus* numerosis brevissime pentadelphis adelphis polyandris cum glandulis totidem prominulis disci alternantibus; *antheris* loculis 2 parallelis linearibus angustis rima longitudinali dehiscentibus; *ovario* pyriformi 5-loculari in stilum contracto apice radiato 5-lobato; *fructu* ignoto.

Oban; n. 1742.

*Leaves* glabrous, coriaceous, 10-14 cm. long, 30-48 mm. broad;

lateral nerves 1-1.5 mm. apart; petioles 8-10 mm. long. *Sepals* 2, exterior smaller ovate or ovate-lanceolate; apex rounded,  $\pm$  3 cm. long, interior longer. *Petals* 4.5-5 cm. long, 3-3.5 cm. broad. *Anthers* 7-8 mm. long.

*Pentadesma grandifolia* Bak. fil. sp. nov. Verisimiliter arbor ramulis siccitate longitrorsum striatis; *foliis* oppositis amplis papyraceis oblongis vel oblongo-lanceolatis apice obtusis vel acutis basi cuneatis subtus glandulis emersis sparsim tectis nervis lateralibus crebris parallelis, costa subtus prominente petiolo crasso suffultis; *floribus* hermaphroditis; *sepalis* 5 imbricatis crassis ovatis 2 exterioribus quam interioribus minoribus quam iis *P. butyraceae* Sabine brevioribus; *petalis* crassis sepalis interioribus subsimilibus basin versus interne carinatis; *staminibus* numerosis pentadelphis adelphis polyandris cum glandulis totidem disci alternantibus, antheris loculis 2 parallelis linearibus angustis rima longitudinali dehiscentibus; *ovario* pyriformi 5-loculari in stilum contracto apice radiato 5-lobo; *fructu* ignoto.

Oban; n. 1265.

*Leaves* 25-30 cm. long, 7.0-9.5 cm. broad; petioles 10-20 mm. long. *Sepals* 2 exterior  $\pm$  22-28 mm. long, interior 3 cm. long.

The distinguishing features of this species are the large oblong leaves with numerous glands and with numerous lateral nerves which are about 2 mm. apart, and the exterior sepals 22-28 mm. long. The leaves are larger and the exterior sepals shorter than in *P. butyracea* Sabine (Hooker's *Icones*, t. 2465).

#### CLAVIS OF SPECIES.

- a. Leaves coriaceous, cuneate-oblongate or cuneate-obovate, 10-14 cm. long. Exterior sepals  $\pm$  30 mm. long.  
*P. nigritana* Bak. fil. .... Nigeria.
- β. Leaves coriaceous, oblong or ovate-oblong, 14-24 cm. long. Exterior sepals 30-40 mm. long.  
*P. butyracea* Sabine. .... Sierra Leone, St. Thomas.
- γ. Leaves papyraceous, oblong, 25-30 cm. long. Exterior sepals 22-28 mm. long.  
*P. grandifolia* Bak. fil. .... Nigeria.

*P. maritima* Pierre, in Bull. Soc. Linn. Paris, ii. 1226 (1896), is known to me only from the description. The flowers and leaves are unknown.

*Garcinia Mannii* Oliv. var. nov. *brevipedicellata* Bak. fil. Arbor, *foliis* oblongo-ovatis vel ellipticis petiolatis; *floribus* tetrameris axillaribus paucis pedicellis quam iis typi manifeste brevioribus.

Oban; n. 1503.

A tree 7-8 metres high (*vide* Mrs. Talbot). *Leaves* 10-12 cm. long, 4.0-5.5 cm. broad; petioles 6-7 mm. long.

[Centre of flower dark red, stamens and anthers buff, filaments orange, sepals pale green.—P. A. T.]

*Garcinia* (Tagmanthera) *obanensis* Bak. fil. sp. nov. Frutex ramulis glabris; *foliis* oppositis petiolatis ovatis vel oblongo-ovatis nervis lateralibus numerosis angulo circ. 60–80° patentibus longe acuminatis basi cuneatis costa subtus valde prominente nervis secundariis tenuibus inter primarios paucis a costa abeuntibus aliisque inter primarios oblique transversis numerosis; *floribus* tetrameris axillaribus paucis interdum solitariis; *pedicellis* strictis calyce pluries longioribus; *sepals* ovatis vel suborbiculari-ovatis calyce brevioribus exterioribus quam interioribus brevioribus; *staminibus* tetradelphis; *ovario* obconico 4-loculari; *stigmata* late peltato. A *G. Mannii* Oliver facile cognita foliis latioribus.

Oban; n. 1334.

A *shrub* about 1–2 metres high (*vide* Mrs. Talbot); internodes 3–4 cm. long. *Leaves* without the acuminate apex 7–10 cm. long, 3·5–5 cm. broad, glabrous, costa impressed above; petioles 5–7 mm. long, acuminate apex 15–25 mm. long. *Pedicels* 5–8 mm. long. *Sepals* 4, 2 large, 2 small. *Petals* longer than the sepals, 7–8 mm. long. *Anthers* 10–12 semicircular.

This plant belongs to the Sect. Tagmanthera Pierre; the lateral nerves of the leaves are numerous, the flowers solitary or few, the pedicels 6–8 mm. long, the petals 7–8 mm. long, phalanges of stamens 4. It is allied to *G. punctata* Oliver and *G. Prussii* Engler, and especially to *G. Mannii* Oliver and to *G. epunctata* Stapf.

[Fruit bright orange.—P. A. T.]

## MALVACEÆ.

*Hibiscus grewioides* Bak. fil. sp. nov. Arbuscula, ramis cinereo-corticatis, ramulis hispidis; *foliorum petiolis* brevibus hispidis, *lamina* oblongo-oblongeolata vel oblongo-obovata membranacea inaequilaterali basi cuneata vel cuneato-rotundata apice acuminata margine in parte inferiore integra in parte superiore remote dentata superne praeter costam glabra subtus costa hispida nervis lateralibus tenuibus 5–7 arcuatis nervis secundariis reticulatis; *stipulis* linearibus hispidis; *floribus* paucis solitariis vel 2–3; *bracteolis* in cupulam connatis calyce 2–3-plo brevioribus; *calycis tubo* quam dentibus longiori; *petalis* oblongo-obovatis basi maculatis extrinsecus cinereo-pubescentibus; *columna staminea* antheras numerosas gerente; *ovario* 5-loculari; *stylis* ramis 5, stigmatibus capitatis; *fructu* ignoto.

Oban, near Owum; n. 1343.

A small *tree* 4–5 metres high (*vide* Mrs. Talbot). *Petioles* 3–6 mm. long. *Leaves* 9–13 cm. long, 4–5 cm. broad, strongly 3-nerved at the base. *Calyx* cupuliform,  $\pm$  7 mm. long, 5-dentate. *Petals* 20–23 mm. long. *Staminal column* 17–18 mm. long.

Noticeable on account of the membranous, unequal-sided, oblong-



oblanceolate or oblong-obovate, mucronate leaves with short petioles, the connate cupuliform involucre, the staminal column antheriferous for 12-13 mm. of its length.

[Petals yellow.—P. A. T.]

## STERCULIACEÆ.

The collection contains a number of cauliflorous species of *Cola*. Among the novelties there are two which are of special interest. In *Cola schizandra* sp. nov. the anthers instead of being in a continuous ring in the male flowers are cut up into phalanges, and for this I venture to propose a new subgenus—*Schizocola*. *Cola schizandra* is allied to *Cola digitata* Masters, but I have been unable to obtain male flowers of this latter plant to dissect. The other novelty to which attention should be called is *Cola gigas* sp. nov. with flowers 7-8 cm. long. The exact affinity of the latter plant is somewhat doubtful at present, as it is not closely allied to any other member of the genus; it is evidently a most striking novelty.

Two other novelties are *Cola Talbotii* and *Cola Buntingii*, both members of the subgenus *Cheirocola*, the latter collected by Mr. R. H. Bunting in Liberia. Another novelty is *C. arcuata* belonging to the subgenus *Haplocola*, and allied to *C. flavovelutina* K. Schum. and *C. Gilgiana* Engler.

*Cola* (*Haplocola*) *areuata* Bak. fil. sp. nov. Arbor erecta ramulis teretibus cortice cinereo substriato obtectis; *foliis* tenuiter coriaceis superne glabris lanceolato-oblongis vel anguste oblongis apice valde acuminatis basi cuneatis nervis lateralibus utrinque 8-9 prope marginem arcu intramarginali conjunctis subtus prominulis petiolo mediocri suffultis; *floribus* parvis e ramulis ortis; *flore masculo* andræceo uniseriato androgynophoro antheris longiori et pilis plus minus oblecto, *flore foemineo* calyce ultra medium in lacinias 5 triangulares et acutas diviso; *ovario* plus minus trimero tomentoso; *fructu* ignoto.

Oban; n. 29.

*Leaves* 12.0-22.5 cm. long, 3-6.2 cm. broad; petioles 1-5 cm. long. Male flower: *Anthers*  $\pm$  1 mm. long, androgynophore 3.0-3.5 mm. long. Female flowers: *Calyx* hairy, 6-7 mm. long.

A member of the series *Integrifoliae* of the subgenus *Haplocola*. Allied to *C. flavo-velutina* K. Schum. and *C. Gilgiana* Engler, but differing from both these species in the narrower leaves.

*Cola* (*Cheirocola*) *gigas* Bak. fil. sp. nov. Arbor medioeris; *foliis* digitatis foliolis circ. 5 foliolis intermediis majoribus basi cuneatis apice acuminatis grosse et acute lobatis nervis lateralibus utrinque 14-16 prope marginem arcu intramarginali conjunctis foliolis exterioribus inaequilateralibus latere exteriori grosse et



acute lobatis apice acuminatis quam foliis intermediis minoribus omnibus sessilibus foliorum petiolo longitudinaliter striato longo vel longissimo; *floribus masculis* ex ligno vetere ortis maximis; *bracteis* ad basin pedicellorum ovatis; *pedicellis* brevibus; *alabastris* ellipsoideis dense hirsutis; *calyce* ellipsoideo urceolato externe striato lobis 5 ovatis patentibus; *antheris* uniseriatis, longitudinaliter dehiscentibus; *carpellis* 4, fulvo-tomentosis stigmatibus crassis. (Pl. 3, A.)

Oban. In flower Oct. 22; n. 160.

*Tree* 10–18 metres high (*vide* Mrs. Talbot). *Leaves* somewhat similar to those of *Cola digitata* Masters. Intermediate leaflet 40–45 cm. long, 24–26 cm. long; petiole  $\pm$  36–40 cm. long, covered with wool at first, perhaps glabrous eventually. *Flowers* crimson-purple, large, 7–8 cm. long, showy, arising two or three together from the stem.

The distinguishing features of this species are the 5-foliolate lobed leaves with sessile leaflets and a long petiole, the intermediate leaflets are 40–45 cm. long, the exterior leaflets much shorter; the large flowers arising from the old wood in clusters of two or three; the ellipsoidal urceolate calyx 5-lobed towards the apex, 7–8 cm. long.

As Mr. Ridley observed to me the flowers of this species bear considerable resemblance to those of a species of *Thottea* in Aristolochiaceæ.

[Calyx very dark red; buds bright yellow-brown.—P. A. T.]

**Cola** (Cheirocola) **Talbotii** Bak. fil. sp. nov. Arbor; *foliis* longe petiolatis digitatis foliolis 5 sessilibus foliolis exterioribus inaequilateralibus quam intermediis minoribus oblongis acuminatis nervis lateralibus circ. 10–11 foliolis intermediis majoribus oblongo-oblancoatis nervis lateralibus utrinque 12–14 arcuatis foliolis superne glabris subtus pallidioribus; *calyce* in flore masculino pro genere medioeri campanulato usque ad medium 5-lobo lobis ovatis acutis; *flore masculo* e ligno vetere fasciculato *andræceo* uniseriato thecis linearibus; *flore foemineo* ovario tetramero, stigmate crasso; *folliculis* pedicellatis rubris apice acuminatis pendulis.

Oban, Kwa river; n. 4.

*Leaves*, leaflets not lobed, outer leaflets 20–21 cm. long, about 5–6 cm. broad; middle leaflet  $\pm$  31 cm. long,  $\pm$  9 cm. broad. *Calyx* of the female flower larger than the male,  $\pm$  15 mm. long. *Carpels* 4–5 mm. long. *Pod* 9–10 cm. long.

Allied to *Cola pachycarpa* DC. in the subgenus Cheirocola, but there are fewer leaflets, and the flowers are smaller, and to *Cola pulcherrima* Engler in Engl. Jahrb. xlv. pp. 335–337, t. 3, from which it differs by the smaller calyx.

[Flowers very dark red, stigmas cream-coloured. Pod red-pinkish on the underside.—P. A. T.]

I have added the description of the following species found by Mr. R. H. Bunting in Liberia.

**Cola** (Cheirocola) **Buntingii** Bak. fil. sp. nov. Arbor modice alta; *foliis* in specimine nostro 5-foliolatis *foliolis* coriaceis apice acuminatis basi cuneatis oblanceolatis intermediis majoribus nervis lateralibus arcuatis 13–15 subtus prominulis foliolis exterioribus minoribus omnibus petiolulatis petiolo communi tereti longiusculo; *floribus* paniculatis e ligno vetere trunci ortis pedunculatis; *calyce* pro genere mediocri extus ferrugineo-tomentoso; *flore* masculo andrœcio uniseriato androgynophori antheras lineares subaequante vel longiori, *flore* foemineo ovario pentamero tomentoso antheris abortivis uniserialibus ad basin cincto; *folliculis* majusculis plurispermis seminibus majusculis testa alba edule (sec. cl. detectorem).

Liberia, *R. H. Bunting*, Begwai Bush. In flower Sept. 1910.

A tree about 20 ft. *Leaves*, middle leaflets  $\pm$  30 cm. long, 6·5–7·0 cm. broad; petiolules  $\pm$  3·5 cm. long, common petiole  $\pm$  1·47 cm. long. *Flowers* of medium size, pedunculate arising from the trunk. *Calyx*  $\pm$  12–13 mm.; lobes oblong acute. *Follicles*  $\pm$  14 cm. long, pinkish-red on outside and glossy. Seed-coat white, glistening waxy. Exterior of cotyledons purplish-red, interior darkish crimson. *Embryo* tomentose with brown scaly hairs.

A member of the subgenus Cheirocola allied to *C. pachycarpa* K. Schum., *C. rostrata* K. Schum. and *C. Flamignii* De Wild.

The distinguishing features of this species are the 5-foliolate leaves with oblanceolate acuminate petiolulate leaflets, and long common petiole; flowers in short panicles arising from the trunk; calyx ferrugineous-tomentose externally  $\pm$  12–13 mm.; andrœcium uniseriate in the male flowers; ovary pentamerous, surrounded by a ring of abortive anthers in the female, flowers shorter than the calyx-tube; follicles pinkish-red, and glossy.

#### CLAVIS OF SPECIES OF SUBGENUS CHEIROCOLA.

##### A. All leaflets entire.

##### (a) Branches lepidote.

\* Leaflets 3.

*C. lepidota* K. Schum. .... Cameroons, Nigeria.

\*\* Leaflets 5–9.

*C. argentea* Masters ..... Cameroons.

##### (b) Branches not lepidote.

† Flowers small. Calyx 5–6 mm.

*C. crispiflora* K. Schum. .... Gaboon.

†† Flowers larger. Calyx  $\pm$  10–15 mm.

° Leaflets 5, sessile.

*C. Talbotii* Bak. fil. .... Nigeria.

°° Leaflets 5, petiolulate.

*C. Buntingii* Bak. fil. .... Liberia.

††† Flowers larger. Calyx  $\pm$  17–30 mm.

° Leaflets  $\pm$  5 obovate-lanceolate, rostrate. Calyx  $\pm$  17–20 mm.

*C. rostrata* K. Schum. .... Cameroons, Nigeria.

° Leaflets 7-9 lanceolate or suboblanceolate, acuminate.

Calyx  $\pm$  20-22 mm.

*C. pachycarpa* K. Schum. .... Cameroons.

°° Leaflets 7-9 oblanceolate, petiolulate. Calyx 25-30 mm.

*C. Flamigniï* De Wild. .... Congo.

B. Middle leaflets or leaflet lobed.

† Flowers small. Calyx  $\pm$  5 mm. Leaflets 5, glabrous, petiolulate.

*C. Quintasii* Engler .... St. Thomas.

†† Flowers larger than preceding, of medium size.

° Leaflets 5, glabrous above, sessile.

*C. pulcherrima* Engler .... Cameroons.

°° Leaflets 5-7-9 (ex Masters), petiolulate.

*C. digitata* Masters ..... Prince's Island, Cameroons, Nigeria.

†† Flowers very large. Calyx 7-8 cm. Leaflets  $\pm$  5, sessile.

*C. gigas* Bak. fil. .... Nigeria.

*Cola* (*Autocola*) *lateritia* K. Schum. var. nov. *nigerica* Bak. fil. *Arbuscula* sec. cl. *detectorem*; *foliis* coriaceis late ovatis; *floribus* 4-5-meris pedicellatis; *flore foemineo* quam in typo majori; *carpidiis* 4-5.

Oban, Itaiyo River; n. 1313.

*Tree* about 10 metres high; petioles  $\pm$  15 cm. *Leaves* 17-25 cm. long, 15-17 cm. broad. *Calyx* (Fl. ♀) 9-10 mm. long.

*C. Screti* De Wild. is evidently a close ally, but the ovary is described as trimerous.

[Centre of flower bright pink, sepals cream, stigma brown.—P. A. T.]

*Cola cauliflora* Masters in Oliver Fl. Trop. Afr. i. 221 is founded on specimens from three localities—the Gaboon River, River Kongui, and Ambas Bay. The description states that the leaves are either sessile or with stalks 2 in. in length.

The plant from the river Kongui is *Cola flavo-velutina* K. Schum., and the plant from Ambas Bay is *Cola micrantha* K. Schum.

*Schizocola* subgen. nov. Stamina in phalanges 4 disposita.

*Cola schizandra* Bak. fil. sp. nov. *Arbuscula*; *foliis* circ. 7-foliolatis foliolis papyraceis glabris ellipticis vel oblongis apice acuminatis basi in petiolulum attenuatis nervis lateralibus utrinque 8-10 arcuatis subtus prominulis foliolis exterioribus quam intermediis minoribus petiolo communi longo suffultis; *floribus* e ramulis ortis; *calyce* ultra medium 4-lobo lobis crassis; *fl. masc.* staminibus in phalanges 4 dispositis thecis linearibus; *fructu* (sec.

cl. detectorem) longe stipitato coccineo apice acuminato seminibus nitidis nigris. (Pl. 3, B.)

Oban; n. 1598.

Small tree 3-4 metres high (*vide* Mrs. Talbot). *Intermediate leaflets* 30-34 cm. long, 75-86 mm. broad; *exterior leaflets*  $\pm$  20 cm. long  $\pm$  60 mm. broad; petiolules 25-40 mm. long, common petiole  $\pm$  30 cm. long. *Peduncle* short. *Calyx* of  $\sigma$  flowers  $\pm$  12 mm. long, androgynophore short, the anthers tetradelphous not in a complete ring.

Closely allied to *Cola digitata* Masters.

The distinguishing features of this plant are the digitately 7-8-foliolate leaves with oblong or oblong-ob lanceolate, petiolulate, acuminate leaflets entire or occasionally sublobate; the 4-lobed calyx with rather thick lobes, total length  $\pm$  10-12 mm.; the anthers in 4 phalanges not in a continuous ring.

I venture to place this species in a new subgenus *Schizocola*, on account of the structure of the andræcium.

I have not had an opportunity of dissecting male flowers of *C. digitata* Masters, but Schumann (*Sterculiaceæ Africanæ*, 123) describes the anthers as arranged in a ring.

***Scaphopetalum parvifolium* Bak. fil. sp. nov.** *Arbuseula* ramis gracilibus teretibus glabratis; *foliis* parvisculis breviter petiolatis, petiolo fusco-pubescente, oblongis vel subobovato-oblongis apice in acumen longum attenuatis basi acutis integerrimis glabris nervis lateralibus utrinque circ. 7-8 nervis secundariis reticulatis, stipulis subulatis quam petiolis brevioribus; *floribus* saepissime solitariis breviter pedicellatis; *calyce* alte bi-vel tri-lobo coriaceo, sepalis ellipticis; *petalis* cucullatis sepala subaequantibus; *tubo stamineo* obpyramidato angulato staminodiis reflexis; *ovario* oviformi quinquelobo. Ab *S. Blackii* Masters differt foliis minoribus floribus saepissime solitariis non racemosis.

Oban, Obutong Road; n. 1264.

Small tree about 10 metres (*vide* Mrs. Talbot). *Leaves* 9-11 cm. long, 30-35 mm. broad; petioles 3-4 mm. long. *Stipules*  $\pm$  2 mm. long. *Calyx* deeply generally 2-lobed, 8-9 mm. long. *Petals* strongly veined  $\pm$  7 mm. long. *Staminal tube* about 5 mm. high.

This species belongs to the Sect. *Euscaphopetalum* K. Schum., and is noticeable on account of its rather small leaves, largely acuminate at the apex, and generally solitary flowers.

[Flowers bright yellow, sepals bright palish green.—P. A. T.]

***Scaphopetalum Talbotii* Bak. fil. sp. nov.** *Arbuseula*, ramulis teretibus; *foliis* papyraceis oblongis basi cuneatis apice in acumen longum abrupte attenuatis nervis lateralibus 9-10 erecto-patentibus prope marginem conjunctis margine undulato foliorum petiolo brevi; *floribus* mediocriter pedicellatis fasciculatis; bracteolis minutis; *sepalis* 5 herbaceis ovatis acutis quam petalis longioribus; *petalis* concavis cucullatis apice 3-denticulatis dorso papillosis:



*tubo stamineo* obpyramidato angulato sinubus antheriferis ; *ovario* oviformi quinquelobo, stylo incluso ; *fructu* ignoto.

Oban ; n. 1562.

A small *tree* 7-10 metres high (*vide* Mrs. Talbot). *Leaves* 10-18 cm. long, 4-6 cm. broad ; petiole 4-5 mm. long. *Pedicels* terete, 10-17 mm. long. *Sepals*  $\pm$  15 mm. long. *Petals* about 10 mm. long.

Belongs to *Euscaphopetalum* to the series with 5 herbaceous sepals.

[Sepals dull pink outside, dull purplish-red on inside, petals ribbed yellow, anthers cream, stigma pale dull pink, andrœcium deep wine-red at base.—P. A. T.]

## TILIACEÆ.

*Pentadiplandra Brazzeana* Baillon (ex descript.). Oban : n. 1241. The description of this very rare plant (in Bull. Soc. Linn. Paris, i. 611 (1886)) is short and incomplete, and although there seems no reason to doubt the genus to which Mr. Talbot's plant should be referred, its specific identity must, in the absence of material for comparison, at present remain somewhat uncertain. Broadly speaking, *P. Brazzeana* is a *Grewia* with petals much longer than the sepals and definite (10) stamens in two series of 5 each, and these characters Mr. Talbot's specimens possess. A few notes are here appended.

*Rami* subteretes, foliosi, glabri. *Folia* alterna, elliptica vel anguste oblongo-obovata, apicem versus cuspidato-acuminata, apice obtusa, basi in petiolum brevem cuneatim angustata, tenuiter coriacea, utrinque nitentia necnon perspicue reticulata. *Flores* polygami, longipedicellati, in racemos axillares breves pauciflores dispositi. *Sepala* lanceolato-oblonga, obtusa, petalis triplo breviora. *Petala* oblongo-spathulata, apice attenuata, basi glandula magna suborbiculari praedita. *Stamina* petalis breviora, toro brevi superne in discum crassum lobatum exeunte inserta. *Ovarium* ellipsoideum in stylum crassum se ipsum breviter excedentem attenuatum, 5-loculare, ovulis in loculis pluribus 2-serialibus.

*Leaves* 10-13  $\times$  3.5 - 5 cm. ; petioles about 5 mm. long. *Axis of raceme* 3-10 mm. long ; pedicels 7-12 mm. long, slender. *Sepals* 8 mm., *petals* about 25 mm. long ; gland of the latter shallowly crateriform, nearly 3 mm. in diameter. *Torus* sulcate, 1.25 mm. high, not counting the 1 mm. disk.—[S. MOORE.]

*Oubanguia alata* Bak. fil. sp. nov. Arbor mediocris ramulis alatis ; *foliis* papyraceis vel papyraceo-coriaceis subsessilibus alternis oblongis acuminatis basi cuneatis nervis lateralibus utrinque 4-6 arcuatis prope marginem arcu intramarginali conjunctis nervis secundariis tenuibus utrinque glabris foliorum petiolo brevissimo ; *inflorescentia* paniculata ramis divaricatis plus minus angulatis ; *calyce* cupulari margine ciliato dentibus



obsoletis vel subobsoletis; *petalis* 6 angustis valvatis calyce 2-3-plo longioribus; *staminibus* numerosis ima basi connatis filamentis filiformibus antheris brevibus; stylo gracili levissime claviformi; *ovario* 4-loculari ovulis in quoque loculo 2 ab apice pendulis; *fructu* uniloculari, 1-spermo.

Oban, Obutong Road; n. 1513.

*Trec* about 10-12 metres (*vide* Mrs. Talbot). *Leaves* grey-cinereous above, 9-20 cm. long, 4-8 cm. broad; petioles 1-2 mm. long. *Bracteoles* small, subopposite 1.0-1.5 mm. long. *Petals* 6, 10-12 mm. long. *Anthers* not 1 mm. long. *Fruit* oblong-ovoid, pruinose  $\pm$  12 mm. long  $\pm$  7 mm. broad. *Seed* obpyramidal, bearing near the top shreds of the ovarian septa  $\pm$  6 mm. long.

[Stems green. Fruit bright mauve-blue. Anthers bright aureolin. Pistil white. Filaments cream. Petals shell-pink inside, white outside.—P. A. T.]

The species of this genus which have been already described are:—

- (1) *O. africana* Baill. in Bull. Soc. Linn. Paris, ii. 869 (1890). Hab. Gaboon.
- (2) *O. laurifolia* Pierre ex De Wild. Miss. Laurent, 150 (1905). *Egassea laurifolia*, Pierre in De Wild. Étud. fl. Bas et Moy. Congo 1, 31, t. xvii. (1903). Hab. Congo.
- (3) *O. Laurentii* De Wild. in Durand Syll. Fl. Congo, p. 67. *Egassea Laurentii*, De Wild. Étud. fl. Bas et Moy. Congo 2, 310 (1908). Hab. Congo.
- (4) *O. Pierreana* De Wild. Miss. Laurent, 150 (1905). *Egassea Pierreana* De Wild. Étud. fl. Bas et Moy. Congo 1, 32, t. 18. Hab. Congo.

## GERANIACEÆ.

*Oxalis* (Biophytum) *Talbotii* Bak. fil. sp. nov. Species habitu *O. dendroidis* H. B. K. Caule lignoso elato sursum tomentoso; *foliis* in apice caulis arcute approximatis; *foliolis* duriusculis paripinnatis 15-20 jugis setoso-ciliatis superioribus oblique rhombeis vel oblique oblongo-obovatis inferioribus minoribus prae-cipue subtus prominente nervosis; *pedunculis* nullis; *pedicellis* gracilibus; *calyce* profunde quinquepartito laciniis longis nervoso-striatis lanceolatis conspicue acuminatis; *petalis* 5 in sicco albidis oblongis calyce longioribus; *staminibus* inclusis 10 ima basi connatis alternatim longioribus; *ovario* quinqueloculari stylis gracilibus.

Ab *O. sensitiva* L. differt ob pedunculorum absentiam.

Oban; n. 1409.

This plant is allied to *Biophytum Petersianum* Klotzsch, figured in Peters Mossamb., Bot. t. xv.

*Stem* 10-15 cm. long. *Leaves* 4-8 cm. long; distal leaflets

9-10 mm. long; proximal leaflets 2-4 mm. long. *Calyx*  $\pm$  5 mm. long.

The distinguishing features of this plant are the leaflets in 15-20 pairs, the absence of the peduncle, and the narrow white petals.

A plant in the Kew Herbarium, from the *Rev. W. C. Thomson*, from Old Calabar, n. 24, is probably identical with the above.

*Impatiens Talbotii* Bak. fil. sp. nov. Herba caule glabro in sicco longitudinaliter striato internodiis inferioribus longiusculis superioribus brevioribus; *foliis* alternis membranaceis ovato-lanceolatis vel oblongo-lanceolatis basi rotundatis vel late cuneatis acutis apice ipso obtusis sparse hirtulis margine crenato-serratis crenaturis mucronatis nervis lateralibus utrinque 6-9 arcuatis petiolo mediocri suffultis; *racemis* axillaribus folio longioribus saepissime laxe 6-9-floris pedunculis pedicellisque hirtulis; *bracteis* ad pedicellorum basin angustis pedicellis multoties brevioribus; *sepalis* angustis; *labello* subito in calcar filiforme longum contracto; *alis* latere exteriori profunde lobatis vexillo multo longioribus; *vexillo* ovato in sicco coeruleo; *fructu* apice acuto basi cuneato.

Oban; n. 430.

*Herb* 15-20 cm. high. *Leaves* 7-10 cm. long, 4.0-4.5 broad; petioles 10-22 mm. long. *Racemes* 10-15 cm. long, 6-9-flowered. *Pedicels* patent, 20-27 mm. long. *Bracts*  $\pm$  2-3 mm. long. *Spur* 25-30 mm. long. *Wings*  $\pm$  15 mm. long.

The distinguishing features of this plant, which belongs to the Sect. Longicornes Warb., are the alternate, petiolate, slightly hairy leaves, the 6-9-flowered lax racemes longer than the leaves, the pedicels slender, 20-27 mm. long and the long slender spur (25-27 mm.) and lobed wings.

Allied to *I. filicornu* Hook. fil. from the Cameroons, but *I. Talbotii* has much larger flowers. Allied also to *I. pleistantha* Gilg, in Engler Jahrb. xliii. 124, but *I. Talbotii* has slightly hairy smaller leaves and shorter petioles, and the racemes are lax, not dense.

## SIMARUBACEÆ.

*Balanites aegyptiaca* Del. var. *angiolensis* Welw., hitherto known only from Angola, was collected between Garua and Golombe, North Cameroons.

## MELIACEÆ.

*Guarea parviflora* Bak. fil. sp. nov. Frutex; *foliolis* circ. 9 oblongo-oblanco-latis vel oblongis viridibus apice acuminatis foliolis distalibus majoribus quam proximalibus subduplo longioribus nervis lateralibus in distalibus utrinque 9-10 arcuatis in proximalibus 5-8; *floribus* parvis in paniculam dispositis; *calyceis tubo* brevi dentibus brevibus; *petalis* albis lineari-oblongis; *tubo*

*stamineo* glabro quam petalis parum breviori; *antheris* oblongis; *ovario* glabro sursum in stylum glabrum attenuato, stigmate discoideo. *A. G. nigerica* floribus minoribus et ovario glabro recedit.

Oban; n. 1281.

*Shrub* about 7 metres high (*vide* Mrs. Talbot). *Leaflets* distal 12–13 cm. long, 3·7–4·3 cm. broad, proximal 4·5 cm.—7·5 cm. long, 2·3–3·2 cm. broad. *Panicle*  $\pm$  15 cm. long. *Calyx tube*  $\pm$  1 mm. long. *Petals* about 4–5 mm. long. *Staminal tube* about 4 mm. long. *Anthers*  $\pm$  1 mm. long.

Very closely allied to *Guarea leptotricha* Harms. It differs principally in the much shorter hairs on the leaf-rachis, in the longer and narrower leaflets, and the smaller calyx.

[Flowers creamy-pink; centre cream.—P. A. T.]

***Guarea nigerica* Bak. fil. sp. nov.** Frutex; *foliis* imparipinnatis; *foliolis* 7 breviter petiolulatis vel subsessilibus cuneato-obovatis foliolis proximalibus minoribus oblongo-ovatis omnibus in acumen abrupte attenuatis nervis lateralibus in foliolis distalibus utrinque 15–20 in proximalibus paucioribus petiolo communi puberulo; *floribus* albis in paniculam racemiformam dispositis ad ramos abbreviatis paniculae glomerulatin digestis; *calyceis tubo* campanulato dentibus acutis vel subobsoletis; *petalis* 5 lineari-oblongis calyce 3–4-plo longioribus; *tubo stamineo* glabro sursum parum angustato; *antheris* 10 parvis ellipticis; *ovario* stipitato sursum in stylum attenuato stigmate late discoideo; *fructu* ignoto. Ab *Heckeldora latifolia* Pierre differt ovario pubescente.

Oban; n. 1350.

*Shrub* 3–7 metres high (*vide* Mrs. Talbot). *Leaflets*, distal 14–20 cm. long, 5–7·5 cm. broad, proximal 7·0–7·5 cm. long, 3–4 cm. broad, petiolules 1–2 mm. long, common petiole  $\pm$  20 cm. long. *Rachis* of inflorescence  $\pm$  30 cm. long, lateral branches 5–15 mm. long. *Calyx* 2·5–3·0 mm. long, puberulous. *Petals* 8–9 mm. long. *Staminal tube* 6–7 mm. long. *Anthers* ·75 mm. long. *Ovary* pubescent, unilocular, stipe inflated at the middle, parietal placentas 2 each, bearing 2 collateral ovules.

I have followed Dr. Harms in considering the genus *Heckeldora* Pierre as synonymous with *Guarea*.

***Guarea glomerulata* Harms var. nov. obanensis Bak. fil.** Verisimiliter frutex; *foliis* multijugis, foliolis oblongis basi cuneatis apice acuminatis petiolulatis; *floribus* quam in typo majoribus; *calyce* hirsuto saepius 4-dentato; *petalis* 4 oblongis; *antheris* 8 paullulo infra apicem tubi insertis; *ovario* extus dense hirsuto; *stigmate* discoideo.

Oban; nn. 1280–1285.

*Leaflets* about 12 in number, distal 15–16 cm. long, 4–5 cm. broad; proximal shorter 10–13 cm. long, 4·5–5·0 cm. broad. *Calyx*  $\pm$  2·5 cm. long. *Petals* 9–10 mm. long, longer than in the type. *Staminal tube*  $\pm$  8 mm. long. *Anthers* 8, 1·0–1·2 mm. long.

## CHAILLETIACEÆ.

*Dichapetalum Thomsonii* Engler var. nov. *obanense* Bak. fil. Arbuscula ramulis cortice cinereo tectis; *foliis* pergamaceis quam in typo latioribus oblongo-ovatis vel ovatis utrinque glabris apice breviter acuminatis basi cuneatis nervis lateralibus utrinque 6-7; *inflorescentia* glomerata petiolo breviori vel aequilongo; *petalis* spathulatis ad  $\frac{1}{2}$  longitudinis fissis; *ovario* hirtio.

Oban; n. 1627.

*Leaves* 10-15 cm. long  $\pm$  7 cm. broad; petiole 8-10 mm. long. *Flowers* in many-flowered sessile glomerules which are  $\pm$  2 cm. in diameter. *Sepals* oblong-lanceolate  $\pm$  3 mm. long. *Petals*  $\pm$  5 mm. long. Differs from the type in the shape of the leaves, &c.

[Sepals pale drab-green, petals thin, orange, filaments white, anthers drab.—P. A. T.]

## CELASTRACEÆ.

*Salacia Talbotii* Bak. fil. sp. nov. Frutex scandens sec. cl. detectorem ramis glabris plus minus angulatis; *foliis* oppositis breviuscule petiolatis subcoriaceis oblongis vel elliptico-oblongis apice acuminatis basi cuneatis nervis lateralibus utrinque 5-8 subtus ut costa prominentibus nervis secundariis reticulatis glabris; *floribus* pro genere majusculis in foliorum axillis pluribus, pedicellis mediocribus; *alabastris* subovoideis; *calycis lobis* ovatis exterioribus manifeste minoribus margine hyalinis; *petalis* calyce 2-3-plo longioribus oblongis vel ovato-oblongis; *staminibus* 3 intra discum crassiusculum annularem insertis, filamentis applanatis antheris late cordiformibus filamentis brevioribus rimis longitudinalibus extrorsum dehiscens; *ovario* conico apice in stylum manifestum attenuato, 3-loculari.

Oban; n. 1687.

*Internodes* 6-7 cm. long. *Leaves* 12-22 cm. long, 5.5-8.6 cm. broad; petioles 9-14 mm. long. *Pedicels* 4-7 mm. long. *Exterior sepals* 2 mm. long, *interior* 3 mm. long. *Petals*  $\pm$  8 mm. long.

This plant belongs to the series in which the anthers dehiscence longitudinally—the flowers are rather large and arise from the axils of the large sub-coriaceous, glabrous leaves.

[Sepals pale yellow, outline bright brown, petals yellow-creamy in high lights, disc cream, stamens with cream filaments, brownish-yellow anthers.—P. A. T.]

## SAPINDACEÆ.

*Chytranthus macrophyllus* Gilg var. nov. *obanensis* Bak. fil. Arbor, cortice brunneo; *foliis* pinnatis circ. 5-6-jugis, rhachi fusco-tomentella, *foliolis* maximis inferioribus quam superioribus



minoribus oblongo-ovatis supra praeter costam glabris nitidis apice breviter acuminatis basi cuneatis utrinque nervis lateralibus 20-22, foliolis superioribus majoribus maximis nervis lateralibus 21-24 ante marginem arcu intramarginali conjunctis nervis secundariis reticulatis; *inflorescentiis* pseudo-racemosis elongatis spiciformibus e trunco erumpentibus rhachi angulata tomentella; *floribus* in cymulas saepissime 2-6-floras dispositis, alabastris subglobosis pulcherrime atro-rubro-tomentosis; *bracteis* bracteolisque parvis; *calyce* in parte  $\frac{1}{2}$ - $\frac{2}{3}$  inferiore connato extrinsecus tomentoso; *petalis* 3-5 oblanceolatis vel late oblanceolatis calyce longioribus squamula instructis; *staminibus* circ. 8-9 disco maximo valde excentrico, filamentis hirtellis; *ovario* rudimentario; *fructu* non viso.

Oban; n. 1596.

*Tree*  $\pm$  20 metres (*vide* Mrs. Talbot). *Leaves* large 5-6-jugate; proximal leaflets  $\pm$  25 cm. long, 9-10 cm. broad; distal leaflets 35-45 cm. long, 11-15 cm. broad; midrib and lateral veins below prominent; rachis 40-50 cm. or perhaps longer; petiolules thickened 8-10 mm. long. Inflorescence from the nodes of the old wood 20-35 cm. long. *Calyx* 7-8 mm. long. *Petals* 8-10 mm. long, 2.5-3.5 mm. broad.

Noticeable on account of the large leaves with 5-6 pairs of leaflets, the distal leaflets being 11-15 cm. broad, the buds subglobose and covered with a dark violet tomentum and the broadly oblanceolate petals longer than the calyx.

Differs from the type in the petals being distinctly longer than the calyx, in the inflorescence being longer (20-35 cm.) and in the leaflets being broader (11-15 cm.).

**Glossolepis Talbotii** Bak. fil. sp. nov. *Arbor*; *foliis* pinnatis multifoliolatis foliolis 8-9-jugis glabris oblongis apice acuminatis apice ipso obtusis nervis lateralibus utrinque 13-15 juxta marginem conjunctis foliolorum petiolulo brevi crassiusculo petiolo communi glabro longitudinaliter striato basi incrassato; *floribus* masc. pseudo-racemosis brevipedicellatis in cymulas saepissime 2-4-floras dispositis; *calycis* segmentis acutis; *petalis* angustis dorso hirtis basin versus squamis instructis; *staminibus* circ. 12 inaequilongis filamentis hirtis; *disco* magno excentrico; *ovario* crudo; *floribus* fem. ignotis.

Oban; n. 1686.

*Leaves* 60-85 cm. long, leaflets 15-20 cm. long, 5.5-6.0 cm. broad, shining above, secondary nerves reticulate below; petiolules 2-6 mm. long. *Inflorescence*  $\pm$  22 cm. long. *Calyx* 11 mm. long. *Petals*  $\pm$  11 mm. long. *Stamens*, filaments 10-12 mm. long.

Differs from *G. macrobotrys* Gilg in having 8-9 pairs of leaflets instead of 4-5, and from *G. Pilgeriana* Gilg in the shorter acumen to the leaf.

**Aporrhiza Talbotii** Bak. fil. sp. nov. *Arbuseula* ramulis fusco-pubescentibus; *foliis* magnis pinnatis rhachi brevissime



pubescente foliolis 4-5-jugis oblongis apice acuminatis distalibus quam proximalibus majoribus subcoriaceis supra nitidis subtus opacis nervis lateralibus numerosis 8-12 inter sese parallelis supra paullo subtus valde prominentibus venis minoribus pulcherrime et densissime reticulatis; *inflorescentiis* terminalibus paniculatis brevissime flavescenti-pubescentibus quam inflorescentiis *C. urophyllae* Gilg longioribus foliis subaequilongis ramis multifloris cymulas confertas gerentibus; *bracteis bracteolisque* angustis; *calyce* profunde 5-fido laciniis ovato-lanceolatis; *petalis* calyce longioribus oblanceolatis hirtis; *capsula* biscutellari semper biloculari breviter stipitata tomento brevissimo cano induta lateraliter compressa rimis lateralibus loculicide dehiscente.

Oban; n. 416.

*Tree* about 7-10 metres high (*vide* Mrs. Talbot). *Proximal leaflets* 6.0-10 cm. long, 3.5-4.5 cm. broad; distal leaflets reach 15 cm. long and 5.5 cm. in breadth. *Petioles* 2-3 mm. long. The whole leaf is  $\pm$  30 cm. long. *Inflorescence* 30-35 cm. long. *Calyx*  $\pm$  5 mm. long. *Petals*  $\pm$  5 mm. long. *Fruit*, one side often aborted, one fully developed side is  $\pm$  10-12 mm. in diameter, 13-14 mm. in height. Differs from *A. urophylla* Gilg in the inflorescence being longer and in the fruit in this species not being so generally symmetrical. The fruit is not inflated as in *A. paniculata* Radl. and the leaves are different.

**Bersama lobulata** Sprague & Hutchins. sp. nov.; aff. *B. paulinioidi* Baker, a qua foliolis numerosioribus integris, calycis lobo antico conspicue bifido vel trifido distinguitur.

*Arbor*; *ramuli* robusti, brunnei, tenuiter fulvo-pubescentes, basi perulis stipularibus imbricatis triangulari-ovatis subobtusis ad 2.3 cm. longis et 1.5 cm. latis rigide pergamentaceis intra glabris extra fulvo-tomentellis instructi; *folia* 12-25 cm. longa, rhachis exalata, supra late canaliculata, parce pubescens, foliola circiter 12-juga, superiora subsessilia, inferiora breviter petiolulata, superiora opposita, inferiora subalterna, lanceolata, oblongo-lanceolata vel elliptico-oblonga, acute acuminata, basi obtusa, inaequalia, integra, 3-7 cm. longa, 1.3-2.7 cm. lata, firme chartacea, nitidula, utrinque glabra, nervis lateralibus utrinque 10-12 arcuatis intra marginem anastomosantibus prominentibus, venis laxissimis indistinctis; *stipulae* lanceolatae, 1-2 cm. longae, ad 8 mm. latae, ceterum ut in perulis; *racemi* ramulorum apices versus aggregati, circiter 15 cm. longi; rhachis robusta, basi circiter 3 mm. diametro, fulvo-pubescentis; *bractearum* subulato-filiformes, 1-1.5 mm. longae, dense pubescentes; *pedicelli* patentes, 1-1.2 cm. longi, puberuli; *calyx* extra minute puberulus vel fere glaber, intra glaber, lobi posticus et laterales ovati, apice obtusissimi vel rotundati, 4-5 mm. longi, 2.5-3 mm. lati, coriacei, minute ciliolati, lobus anticus superne bifidus, vel trifidus lobulo intermedio minimo, 5 mm. longus et latus; *petala*

coriacea, recurva, subaequalia, lineari- vel spathulato-oblongata, apice rotundata, ad 1.2 cm. longa, 3 mm. lata, ungue intra glabro, ceterum utrinque dense appresse pubescentia; *stamina* 5 vel 4, filamenta circiter 5 mm. longa, carnosae, inferne latiora et complanata, extra medio breviter villosa, intra inferne pubescentia, antherae 2.5 mm. longae, parce pilosae; *discus* posticus, 1 mm. altus, carnosus, glaber; *ovarium* obliquum, appresse pilosum, stylus 7 mm. longus, inferne parce puberulus, stigma subglobosum, 1 mm. diametro.

Oban; n. 1376 (Herb. Kew.).—[T. A. S. & J. H.]

### ANACARDIACEÆ.

*Trichosecypha Talbotii* Bak. fil. sp. nov. Ramuli striati teretes; *foliis* imparipinnatis circ. 3-jugis cum impari petiolo terete longitudinaliter striato fusco-pubescente foliolis magnis papyraceis ellipticis vel ovatis vel oblongo-ovatis apice acuminatis basi late cuneatis superne praeter costam impressam fere glabris nervis lateralibus utrinque 10–13 arcuatis prope marginem conjunctis jugis distantibus foliolis omnibus petiolulo breviuscule crasso instructis; *panicula* laxissima in axillis foliorum superiorum multiramosa ramis divaricatis, pedicellis tenuibus quam floribus saepissime longioribus; *bracteolis* angustis quam pedicellis brevioribus; *calycis lobis* ovatis quam petalis 2–3-plo brevioribus; *petalis* ovatis nervis conspicuis; *staminibus* quam petalis paullulum brevioribus; *disco* glabro.

Oban; n. 579.

*Leaflets* 20–25 cm. long, 10–14 cm. broad. *Petiolules* 5–7 mm. long. *Flowers*  $\pm$  3 mm. in diameter.

Allied to *T. camerunensis* Engler, but distinguished by the form of the terminal leaflet.

*Trichosecypha longipetala* Bak. fil. sp. nov. Verisimiliter arbuscula; *foliis* imparipinnatis foliolis praeter costam glabris in speciminibus mihi obviis 6–7 oblongis vel ovatis subcoriaceis basi cuneatis apice acuminatis in foliolis oblongis nervis lateralibus utrinque circ. 10–12 in foliolis ovatis circ. 9 juxta marginem inter se conjungentibus costa subtus prominente pubescente nervis secundariis subtus prominulis reticulatis; *floribus* pro genere majusculis saepe hermaphroditis in paniculam brevem et densam dispositis; *calyce* 4-loba lobis ovatis petalis breviori; *petalis* pro genere majusculis ovatis acutis; *stylis* 3 divergentibus stigmatibus capitellatis; *disco* hirsuto; *ovario* uniloculari, ovulis solitariis pendulis.

Oban; n. 1681.

*Rachis*  $\pm$  35 cm. long; *petiolules* 3–4 mm. long, larger leaflets 20–23 cm. long  $\pm$  7 cm. broad; smaller leaflets 14–16 cm. long,

6·5–8 cm. broad. *Panicles* many-flowered,  $\pm$  8–12 cm. long; rachis tomentose, pedicels often longer than the flower. *Petals* 4–5 mm. long.

Allied to *T. Mannii* Hook. fil.

The distinguishing features of this species are the imparipinnate leaves with 6–7 leaflets; the generally hermaphrodite flowers with ovate petals 4–5 mm. long, in a dense, short, many-flowered panicle 8–12 cm. long; and the hairy disc.

*Nothospondias Talbotii* S. Moore sp. nov. *Arbor elata, foliolis* circa 15 breviter petiolulatis oblongis vel anguste oblongo-ovatis utrinque obtusis basi saepe obliquis papyraceis glabris; *paniculis* quam folia brevioribus minute fulvo-pubescentibus cito glabrescentibus; *calycis* pubescentis puberulive lobis deltoideis obtusis tubo brevioribus; *petalis* oblongis obtusis sepalis duplo longioribus reflexis; *ovario* ovoideo-oblongo apice truncato prominenter 8-sulcato sursum piloso ceterum glabro; *stylo* abbreviato apice 4-lobulato.

Oban; n. 230.

Axis of *leaf* about 7 dm. in length, swollen quite at the base, fistular, purplish-brown, shining. *Leaflets* usually 15–18 cm. long, 4–5 cm. broad, the basal obliquity not very marked and sometimes absent, greenish-brown when dry above, brown below, on both faces palely lucent; lateral nerves prominent on the underside, usually 6–8 on each side of midrib, openly arched, anfractuose towards the margin of the leaf; petiolules 5–7 mm. long. *Panicle* 30 cm. or more in length, its branches ascending or patent, and sometimes so patent that the panicle may measure nearly 40 cm. across; main axis as well as branches ancipitous. *Flowers* 6 to the fascicle or less; bracts about ·3 mm. long, like the 3–4 mm. long pedicels tawny pubescent. Functionally male flowers alone seen. *Calyx* nearly 2 mm. long. *Petals* 5 mm. long, inserted upon a sort of torus (gland?) rather more than ·5 mm. in height. *Filaments* 5–6 mm. long, the lower portion of each lying in one of the furrows of the ovary. *Ovary* with its four cells reduced to minute resin-filled cavities, 1·5 mm. long; style ·3 mm. long.

Several flowers were examined, but all proved to be males. The plant may thus possibly be dioecious.

The short stipe (torus) at the top of which the petals are inserted passed unnoticed by Engler when establishing the genus. This stipe is certainly not present in some of the flowers of *N. Staudtii* Engl. examined, but in other cases there seems to be a perceptible interval between the insertion of the calycine whorl and the petaline. As *N. Staudtii* is polygamous, the variation in question may perhaps have some relation to this fact. It must be added that I failed to find either in *N. Staudtii* or in *N. Talbotii* the dilated, deeply 4-lobed disc Engler describes. This, too, would therefore appear to be an inconstant character.

Irrespective of certain floral points, the two species can be distinguished on sight by the different leaflets.—[S. M.]

## CONNARACEÆ.

*Spiropetalum liberosepalum* Bak. fil. sp. nov. Verisimiliter frutex, *foliis* imparipinnatis 1-2-jugis rhachi tereti glabra foliolis distincte articulatis breviter petiolulatis rigide chartaceis oblongo-lanceolatis vel ovato-lanceolatis apice in acumen attenuatis basi rotundatis nervis lateralibus utrinque 4-5 arcuatis ante marginem conjunctis fol. terminali lateralibus longiore et latiore; *inflorescentiis* axillaribus pluri- vel multi-floris racemis foliis 3-4-plo brevioribus; *pedunculis* teretibus fusco-tomentellis; *calycis lobis* fusco-tomentellis fere ad basin liberis; *petalis* lineari-ligulatis calyce circ. 3-plo longioribus sub anthesi apice convolutis; *staminibus* 10 inaequilongis; *ovariis* 5 sessilibus in stylos 5 filiformes calyci subaequilongos productis; *fructu* ignoto. A *S. odoro* Gilg differt racemis longioribus, calyce non ad medium connato &c.

Oban; n. 1404A.

*Branches* glabrous. *Leaves* lateral, leaflets glabrous, 8-10 cm. long, 2.5-4.0 cm. broad, terminal leaflets 9-11 cm. long, 3.5-4.5 cm. broad; petiolules  $\pm$  4 mm. long. *Racemes* 2-4 cm. long. *Bracts* 1-1.5 mm. long. *Calyx*  $\pm$  4 mm. long. *Petals* 12-14 mm. long.

The distinguishing features of this plant are the 1-2-jugate imparipinnate leaves with chartaceous, oblong-lanceolate or ovate-lanceolate leaflets; the racemes about 2-4 cm. long; the nearly free sepals; and the linear-ligulate petals 12-14 mm. long.

## LEGUMINOSÆ.

There are six new species of Leguminosæ in the collection and three new varieties. *Crotalaria Parsonsii* sp. nov. (Section *Simplicifoliæ*) is a near ally of *C. Vogelii* Benth. and *C. lineari-folia* De Wild. *Baphia obanensis* sp. nov. belongs to the Sect. *Delaria* and has racemes of flowers from the old branches. There are two species of *Angylocalyx*. Dr. Taubert described this genus in Engler's Bot. Jahrb. xxiii. 172 (1897), the short racemes of flowers coming from the old wood and the ovary being adnate to the dorsal side of the calyx-tube. In the Flora of Tropical Africa, ii. 254, my father described *Sophora oligophylla*, but this belongs to *Angylocalyx*, and as the plant is in the present collection, n. 1251, I give a description of it under this genus. There is a very fine new species of *Berlinia*, which I have named *B. Craibiana*, and a new *Macrolobium*.

*Crotalaria* (*Simplicifoliæ*) *Parsonsii* Bak. fil. sp. nov. Caulis erectus ramosus teres hirsutus; *stipulis* angustis linearibus; *foliis* lineari-lanceolatis adpresse pilosis apice mucronatis basi cuneatis costa subtus conspicua petiolo brevi suffultis; *floribus*



parviusculis in racemos elongatos terminales et laterales dispositis ; *bracteis* angustis quam pedicellis longioribus ; *calycis tubo* hirsuto dentibus brevibus ; *vexillo* luteo calyce longiori ; *alis* unguiculatis vexillo brevioribus ; *carina* dorso angulo recto curvata hinc in rostrum gracilem attenuata apice acuta ; *ovario* lineari ; *legumine* ignoto.

Nigeria : River Benue, *Talbot*, n. 449 ; Lokoja, *A. C. Parsons*, n. L 38 (Herb. Kew.).

*Stem* 4-5 ft. (*fide* Dr. Parsons), branches ascending. *Stipules* 3-4 mm. long. *Leaves* hirsute, 6-8 cm. long, 5-11 mm. broad ; petioles 2-4 mm. long. *Bracts* 5-6 mm. long ; *bracteoles* narrow. *Standard* yellow with brown lines,  $\pm$  9 mm. long. *Wings* with claw  $\pm$  7 mm. long. *Carina* bent at a right angle with claws, 8-9 mm. long.

Closely allied to *C. Vogelii* Benth. in the *Simplicifoliæ*. It differs by its shorter calyx-teeth, &c.

It is also closely allied to *C. linearifolia* De Wild. *Études Fl. Bas et Moyen Congo*, 257, t. xiv. figs. 3-9, but differs by the broader leaves and acute, not blunt, apex of the carina.

The distinguishing features of this plant are the terete, hirsute, branched stem 1-1.6 metre high ; the linear-lanceolate, hirsute leaves with a petiole 2-4 mm. long ; the rather lax, virgate racemes of rather small, yellow flowers ; the carina  $\pm$  7-9 mm. long, bent at a right angle with a slender rostrum.

**Baphia** (Delaria) **obanensis** Bak. fil. sp. nov. Arbor mediocris sec. cl. detectorem ramulis cinereo-corticatis ; *foliis* papyraceis ovatis vel ellipticis glabris vel glabriusculis basi late cuneatis vel cuneato-rotundatis apice mucronatis nervis lateralibus utrinque 5-6 arcuatis prope marginem inter se conjungentibus petiolo brevi suffultis ; *floribus* pro genere parviusculis racemosis e ramis vetustioribus ortis ; *pedicellis* gracilibus striatis patentibus teretibus ; *bracteolis* late ovatis parvis ; *calyce* glabro spathaceo membranaceo ; *vexillo* obovato bilobo calyce paullo longiori ; *alis* late oblongis basi unguiculatis ; *carina* naviculariformi ungue brevi ; *filamentis* filiformibus ; *ovario* lineari curvato in stylum gradatim attenuato.

Oban ; n. 1682.

*Tree* about 10 metres high. *Leaves* 8-13 cm. long, 4.5-6.5 cm. broad ; petiole 5-6 mm. long. *Flowers* in lax racemes from the stem and old branches. *Pedicels* 6-8 mm. long. *Calyx*  $\pm$  7-8 mm. long. *Standard* slightly longer than the calyx. *Carina* about 10 mm. long.

[Flower stalks vivid dark green, calyx green. Standard white, yellow at base, other petals white. Pistil and filaments green, anthers dull yellow.—P. A. T.]

**Baphia orbiculata** Bak. fil. sp. nov. Arbor ramulis teretibus superne fusco-tomentellis ; *foliis* coriaceis ovalibus vel suborbicularibus vel ovatis supra glabris subtus pubescentibus nervis lateralibus 6-8 apice saepe rotundatis basi rotundatis vel leviter

subcordatis petiolo mediocri suffultis: *floribus* ad axillas fasciculatis; *pedicellis* fusco-tomentosis, bracteolis 2 ovatis fusco-tomentosis calyce brevioribus; *calyce* extus fusco-tomentoso per anthesin spathaceo-fisso; *vexillo* orbiculato; *alis* oblongis carinam aequantibus vel paullulum superantibus; *carina* leviter incurva obtusa petalis dorso subcohaerantibus; *staminibus* liberis antheris filamentis multo brevioribus; *ovario* subsessili fusco-villoso stylo tenui incurvo stigmate parvo terminali.

Oban; n. 1557.

*Tree* about 8–12 metres (*vide* Mrs. Talbot). *Leaves* suborbicular, coriaceous,  $\pm$  6–7 cm. long and broad, upper leaves ovate or obovate. lateral nerves patent, conspicuous below, petioles 1–2 cm. long. *Calyx* 13–15 mm. long. *Wings*  $\pm$  15 mm. long. *Carina*  $\pm$  15 mm. long.

Noticeable on account of the suborbicular coriaceous leaves, fasciculate axillary flowers, thick spathaceous calyx and slightly incurved obtuse carina about 15 mm. long.

Belongs to the Sect. Delaria § 1 Genuinæ Harms. Allied to *B. maxima* Baker; differs in the shape of the leaves, &c.

[Two bracts dull bronze, sepals dull bronze outside, white inside, five petals white with a yellow mark down centre, stigma white, ovary dull bronzy-green.—P. A. T.]

***Baphia leptobotrys*** Harms var. nov. ***nigerica*** Bak. fil. Frutex scandens sec. cl. detectorem, ramulis teretibus; *foliis* oblongis acuminatis papyraceis quam iis typi longioribus et angustioribus petiolo mediocri suffultis: *floribus* in racemos laxos dispositis; *bracteolis* parvis.

Oban, Kwa River; n. 1554.

*Leaves* 8–13 cm. long, 3–5 cm. broad; petioles about 25 mm. long. *Racemes* 2–6 cm. long.

[Sepals pale green, petals white.—P. A. T.]

***Angylocalyx oligophyllus*** Bak. fil. comb. nov. *Sophora oligophylla* Baker in Fl. Trop. Afr. ii. 254. Frutex vel arbuscula: *foliis* 5 foliolatis rhachi tereti glabra, foliolis chartaceis proximalibus ovatis vel ovato-oblongis apice longe cuspidato-acuminatis basi rotundatis foliolis distalibus majoribus ellipticis vel oblongo-ellipticis apice cuspidato-acuminatis nervis lateralibus in foliolis proximalibus 5–6 in distalibus 7–8 arcuatis; *floribus* breviter pedicellatis racemosis racemis brevibus e ligno adultiore erumpentibus; *calycis* tubo cylindrico sursum curvato basi inferiore saccato-umbonato limbo oblique cupulato tubo longiori; *vexillo* ovato-spathulato basi sensim in unguem attenuato calycis limbo 2–3 plo longiori; *alis* vexillo brevioribus anguste oblongis; *filamentis* glabris antheris oblongis; *ovario* angusto.

Oban; n. 1251.

*Leaflets* alternate, proximal leaflets 11–13 cm. long, 47–57 mm. broad; distal leaflets longer, 18–22 cm. long, 6–7 cm. broad; common

rachis  $\pm$  16 cm. long; petiolules 5–6 mm. long. *Calyx-tube* striate, glabrous,  $\pm$  7 mm. long; limb 9–10 mm. *Standard*, total length  $\pm$  24 mm. long, with green mark up the middle extending to a white rim round the edge.

Differs from *A. ramiflorus* Taub. by the proximal leaflets being much more lengthily ( $\pm$  2 cm.) cuspidate-acuminate at the apex and the standard being  $\pm$  24 mm. long instead of 10–11 mm. (*vide* Taubert), and the calyx-limb being 9–10 instead of 6 mm. (*vide* Taubert).

Differs from *A. Vermeulenii* De Wild. in the longer limb of the calyx, &c.

**Angylocalyx trifoliolatus** Bak. fil. sp. nov. Frutex vel arbuscula; *foliis* chartaceis trifoliolatis foliolis inter majores generis proximalibus minoribus late ovatis vel orbiculari-ovatis apice breviter acuminatis basi rotundatis nervis lateralibus superne impressis utrinque circ. 5–6 foliolis terminalibus majoribus nervis lateralibus 7–8 basi cuneatis rhachi communi glabra foliolorum petiolulis brevibus incrassatis; *floribus* racemosis racemis breviusculis e ligno adultiore erumpentibus; *calycis tubo* cylindrico lineato limbo oblique cupulato tubo longiori; *vexillo* ovato-spathulato in unguem attenuato calycis limbo 2–3-plo longiori; *filamentis* glabris; *ovario* angusto pubescente in stipitem longum attenuato; *legumine* ignoto.

Oban; n. 74.

*Leaflets* lateral, 13–18 cm. long, 8.5–10.3 cm. broad; terminal leaflets longer, 22–23 cm. long  $\pm$  14 cm. broad. *Racemes*  $\pm$  2.5 cm. long; pedicels 3–4 mm. long. *Calyx-tube*  $\pm$  7 mm. long; limb  $\pm$  8 mm. long. *Standard* (including claw)  $\pm$  26 mm. long. *Wings* narrow.

The distinguishing features of this species are the trifoliolate leaves with large terminal leaflets and short apices to the leaflets; the racemes  $\pm$  2.5 cm. long; the calyx-tube  $\pm$  7 mm. long, the limbs slightly longer; the standard  $\pm$  26 mm. long; and the linear pubescent ovary.

**Berlinia Craibiana** Bak. fil. sp. nov. Arbor alta; *foliis* imparipinnatis circ. 4-jugis cum impari foliolis papyraceis proximalibus minoribus ovatis glabris nervis lateralibus circ. 6 foliolis distalibus majoribus oblongis vel oblongo-obovatis nervis lateralibus 7–10 nervis secundariis tenuibus reticulatis apice breviter acuminatis basi cuneatis foliolorum petiolulo brevi; *floribus* paniculatis; *bracteolis* crassis obovatis concavis extrinsecus fusco-pubescentibus vel fusco-tomentellis; *calycis tubo* pubescente cylindrico segmentis angustis tenuibus elongatis; *petalis* 5 summo longe unguiculato spathulato-obovato inferioribus minoribus; *staminibus* 10 basi connatis filamentis elongatis teretibus; *ovario* stipitato cano vel fusco-tomentoso, stylo filiformi, stigmate parvo terminali; *legumine* ignoto.

Oban; n. 1524.

*Tree* about 40 metres high (*vide* Mrs. Talbot). *Proximal leaflets*  $\pm$  9 cm. long,  $\pm$  5 cm. broad; *distal leaflets* 12–16 cm. long, 5·5–6·5 cm. broad; *leaf-rachis* fusco-tomentellous. *Bracts* 45–50 mm. long. *Calyx-segments* petaloid, 30–35 mm. long. *Largest petal*, together with claw, 6–7 cm. long, others much smaller. *Stamens*, filaments  $\pm$  7 cm. long.

Closely allied to *B. acuminata* Solander, but differs in the character of the inflorescence and the pubescent calyx-tube; the smaller petals are distinctly shorter than the calyx.

I have named this plant in honour of Mr. W. Craib of the Kew Herbarium.

[Petals, 5 white, 1 large, 2 small and 3 smaller; 5 sepals palest green; 10 stamens, anthers dull brown.—P. A. T.]

**Macrolobium obanense** Bak. fil. sp. nov. Arbor medioeris sec. cl. detectorem ramulis teretibus; *foliis* paripinnatis saepissime 3-jugis foliolis distalibus majoribus oblongo-obovatis apice acutis basi cuneatis nervis lateralibus utrinque  $\pm$  7 subtus prominulis foliolis proximalibus minoribus ovatis vel ellipticis apice acutis basi late cuneatis omnibus petiolulis crassiusculis breviusculis rhachi pubescente; *inflorescentiis* elongatis racemoso-paniculatis rhachi angulata fulvo-pubescente; *bracteolis* oblongis concavis alabastrum 2-valvatim includentibus extrinsecus fulvo-pubescentibus; *calycis segmentis* oblongis; *petalis* saepissime 4 unguiculatis in alabastro complicato-cucullatis; *staminibus perfectis* longis liberis; *ovario* hirsuto stipitato stipite calycis tubo adnato multiovulato, stylo filiformi; *legumine* juvenili hirsuto.

Oban; n. 1428.

*Leaves*, distal pair of leaflets 15–16 cm. long, 6·5–7·2 cm. broad, proximal pair of leaflets 8–9 cm. long, 4·5–5·0 cm. broad. *Bracteoles* 10–14 mm. long. *Largest petal* unguiculate  $\pm$  15 mm. long.

[Bracts bright green, shaded bronze; 4 sepals pale green; 5 petals white, base of petals cream; pistil pale green; style white; stigma pale yellow; stamens 3 white.—P. A. T.]

**Macrolobium demonstrans** Oliver var. nov. *Talbotii* Bak. fil. Arbor parva; *foliis* abrupte pinnatis circ. 3-jugis foliolis oblongo-obovatis vel oblongis basi inaequilateraliter subcordatis; *floribus* paniculatis; *bracteolis* ovatis alabastrum 2-valvatim includentibus; *calycis segmentis* angustis; *petalo* quinto majore reliquis minoribus; *staminibus* perfectis 3; *ovario* ferrugineo-hirto; *stylo* filiformi hirto; *leguminibus* oblique oblongis lateraliter compressis sutura superiore parum incrassata lateraliter conspicue nervosis.

Oban, Obutong Road; n. 1504.

*Tree* about 7 metres high (*vide* Mrs. Talbot).

Differs from type in the narrower leaflets and more or less hairy style, that of the type being described as glabrous.

The largest petal, together with the claw, is  $\pm$  15 mm. long, and not so caudate at the base as figured by Baillon.



*Macrobium leptorrhachis* Harms var. nov. *nigericum* Bak. fil. Verisimiliter arbor; *foliis* abrupte pinnatis circ. 2-jugis foliolis oblongo-oblanceolis nervis lateralibus 13–16 prope marginem conjunctis rhachi non alata; *floribus* racemoso-paniculatis rhachi valde elongata hujus ramis patentibus quam iis typi longioribus; *bracteolis* 2 concavis; *petalo* summo unguiculato reliquis minoribus.

Oban; n. 502.

*Leaflets* 20–25 cm. long, 8·0–8·5 cm. broad; rachis not alate. *Rachis of inflorescence*  $\pm$  90 cm. long.

## ROSACEÆ.

*Acioa Talbotii* Bak. fil. sp. nov. Arbuscula ramulis cinereo-tomentosis; *foliis* oblongis vel ovato-oblongis coriaceis basi rotundatis apice acuminatis supra nitidis costa subtus impressa tomentosa nervis lateralibus utrinque 7–9 foliorum petiolo brevi, stipulis saepissime delapsis dorso hirsutis; *floribus* in racemos axillares dispositis racemis foliis brevioribus; *calycis tubo* elongato cinereo-tomentoso basi tenui lobis oblongis petalis calyce longioribus; *staminibus* numerosis filamentis plus minus monadelphis antheris parvis; *ovario* cinereo-villoso fauci calycis excentrice adnato.

Oban; n. 1533.

*Tree* about 7 metres high (*vide* Mrs. Talbot). *Leaves* 9·5–13 cm. long, 4·0–5·2 cm. broad; petioles  $\pm$  3 mm. long. *Racemes* 3·5–4·5 cm. long. *Calyx-tube* 2·3–2·4 cm. long, lobes  $\pm$  6 mm. long. *Petals* at an early period deciduous, white. *Style* long, slender.

Very closely allied to *A. Dinklagei* Engler. Differs in the smaller stipules, the midrib of the leaf being impressed below, the much smaller flowers with narrower lobes of the calyx and the narrower bracteoles.

[The pistil is bright dark green at tip, white at base; the stamens have very dark green anthers, filaments gradually paler from where they join, quite white at base; hairs on the ovary bright yellow. —P. A. T.]

## MYRTACEÆ.

The collection contains a very curious and interesting new genus *Crateranthus*, allied to *Asteranthos* and *Napoleona*. It differs from *Napoleona*, as will be seen from the figure, in the stamens and other characters. Some of the most interesting plants in the collection are the new species of *Napoleona*. In the species of this genus which have been hitherto described the flowers are solitary or in twos or threes, but *Napoleona Egertonii*, one of the new species in the present collection, has a paniculate inflorescence, and in two other novelties the flowers are in

clusters of 5-30. In *Napoleona parviflora* sp. nov., the leaves are small, glaucous and very acuminate, and the flowers are small. I have included the description of *Napoleona Gossweileri* sp. nov., which is strikingly different from the other species of the genus. It comes from Angola, and was collected by Mr. John Gossweiler.

*Eugenia obanensis* Bak. fil. sp. nov. Frutex sec. cl. detectorem ramulis tenuibus plus minus applanatis glabrescentibus; *foliis* subcoriaceis ellipticis glauco-viridibus acuminatis apice ipso obtusis utrinque glabris nervis lateralibus tenuibus utrinque 8-12 juxta marginem arcu intramarginali conjunctis nervis secundariis tenuibus costa superne impressa foliorum petiolo brevi superne canaliculato; *floribus* in axillis foliorum glomerulatis glomerulis paucifloris subsessilibus; *sepals* 4 ovatis concavis margine ciliatis quam petalis brevioribus extrinsecus pubescentibus; *petalis* ovatis vel oblongo-ovatis calyce subduplo longioribus; *staminibus* numerosissimis filamentis filiformibus petalis brevioribus antheris parvisculis; *stylo* filiformi.

Oban; n. 1651.

*Leaves* opposite, 7.5-10 cm. long, 2.8-3.5 cm. broad; petioles 2-3 mm. long. *Sepals*  $\pm$  2 mm. long. *Petals*  $\pm$  6 mm. long.

This plant is probably conspecific with *Mann*, n. 263, from Fernando Po, which has been wrongly referred to *E. calophylloides* DC.

It is also allied to *E. Zenkeri* Engler, but has narrower leaves.

*Napoleona parviflora* Bak. fil. sp. nov. Arbor ramis insigniter angulatis argenteo-albidis; *foliis* parvisculis oblongis apice longe et insigniter acuminatis basi late cuneatis nervis lateralibus utrinque 5-7 foliorum petiolo brevissimo superne canaliculato; *floribus* axillaribus parvisculis; *calycis tubo* extrinsecus plus minus verrucoso limbo valvatis 5-fido; *verticillo primo* in membranam orbiculatam petaloideam in ligulas circ. 26 plus minus connato, *verticillo tertio* in cupulam petaloideam connato apice in ligulas fisso; *verticillo* interiore centrum versus inflexo; *fructu* depresso-globoso calycis limbo coronato.

Oban; n. 193.

*Leaves* 9-10.5 cm. long, including the acumen, 2-3 cm. broad; acumen  $\pm$  15 mm. long. *Flowers* small, diameter 22-25 mm. *Calyx* laciniae triangular acute; first verticil more or less cut up into laciniae; third verticil a membranous cup cut up into laciniae; staminiferous verticil with inflexed filaments.

Allied to *N. Vogelii* Hook. & Planchon, but the leaves are narrower and the flowers smaller.

The distinguishing features of this species are the small, oblong, very acuminate leaves with a subspathulate apex, the small flowers (the total diameter being 22-25 mm.), the third verticil stands up instead of bending over.

**Napoleona Alexanderi** D. Talbot & Bak. fil. sp. nov. Arbor vel arbuscula, ramulis teretibus fere glabris; *foliis* oblongo-obovatis apice cuspidatis margine fere integris vel sinuato-crenatis supra subnitentibus costa tenuiter impressa nervis lateralibus divergentibus utrinque 8–10 subtus prominentibus petiolo brevi suffultis; *floribus* axillaribus 3–5 fasciculatis subsessilibus; *bracteolis* rotundatis; *sepalis* 5 acutis triangularibus; *verticillo primo* petaloideo orbiculato rotato albido-lacteolo centrum versus roseo margine crenulato subtus nervis radiantibus circ. 35 donato; *verticillo tertio* e segmentis circ. 35 superne liberis et centrum versus inflexis basi in cupulam connatis; *verticillo interiore* e filamentis circ. 20 plano-linearibus inflexis; *stylo* brevi apice in discum peltatum expanso, stigmatibus 5 versus margines disci radiantibus; *fructu* depresso subgloboso ambitu obsolete 5-lobo vestigiis calycis coronato circ. 6-loculari seminibus in quoque loculo solitariis.

Oban; n. 997A.

A tree reaching a height of 30 metres. *Leaves* 18–21 cm. long,  $\pm 7.5$  cm. broad; petiole  $\pm 5$  mm. long. *Flowers*, first petaloid verticil about 40 mm. in diameter, creamy-white, rose-coloured towards the centre, with about 35 radiating nerves; second verticil composed of about 45 linear segments. Interior verticil composed of about 20 flat, linear, inflexed filaments. *Fruit*  $\pm 7$  cm. in diameter.

The leading characteristics of this species are the oblong-obovate, cuspidate leaves; the flowers in fascicles of 3–5, the first verticil creamy-white, rose-coloured towards the centre, about 40 mm. in diameter, the third verticil carmine at the base, composed of about 35 linear inflexed segments and not erect, and the depressed globose fruit, about 7 cm. in diameter, obsoletely 5-lobed.

Named after the late Captain Boyd Alexander.

**Napoleona megacarpa** Bak. fil. sp. nov. Verisimiliter arbor ramulis angulatis; *foliis* papyraceo-coriaceis oblongis vel oblongo-oblancoelatis apice insigniter cuspidatis basi cuneatis nervis lateralibus 8–9 prope marginem arcu intramarginali conjunctis nervis secundariis tenuibus reticulatis petiolo brevi crasso limbo sub 30-plo brevior; *floribus* medioeribus axillaribus; *sepalis* acutis ovatis apice extus 2–3 glandulosis; *verticillo primo* petaloideo rotato subtus nervis crassis radiantibus 26–30 donato in lacinias plus minus fissis; *verticillo secundo* in filamentis liberis fissis; *verticillo tertio* e filamentis superne liberis inferne in cupulam connatis; *verticillo interiore* e filamentis circ. 20 composito et centrum versus inflexo; *ovario* infero 5-loculari; *fructu* sec. cl. detectorem maximo.

Oban; n. 194.

*Leaves* 18–24 cm. long, 55–70 mm. broad; petiole thick, 6–7 mm. long. *Flowers*, first verticil petaloid more or less broken up into laciniae about 40 mm. in diameter; second verticil of linear seg-

ments; third verticil of free segments above, but joined into a cup below; interior verticil of about 20 inflexed filaments.

This species is allied to *N. cuspidata* Miers. It is noticeable on account of the oblong or oblong-oblancheolate, distinctly cuspidate, papyraceo-coriaceous leaves, 18-24 cm. long, 55-70 mm. broad, and the flowers about 40 mm. in diameter, the first petaloid verticil being more or less broken up into laciniae.

**Napoleona Gossweileri** Bak. fil. sp. nov. Frutex semper-virens; *foliis* parviusculis oblongo-oblancheolatis vel anguste oblongis margine integris apice obtusis basi cuneatis coriaceis superne glabris nervis lateralibus utrinque 6-7 nervis secundariis tenuibus subtus reticulatis petiolo brevi limbo sub 30-plo brevior; *floribus* mediocribus saepissime solitariis ex apicibus ramulorum oriundis; *sepalis* 5 ovatis acutis apice extus biglandulosis; *verticillo primo* petaloideo cupuliformi subtus nervis crassis circ. 35 radiantibus donato; *verticillo secundo* e filamentis linearibus liberis composito; *verticillo tertio* e segmentis plano-linearibus apice liberis basi in cupulam connatis; *verticillo interiore* e filamentis plano-linearibus et centrum versus inflexis; *ovario* infero 5-loculari; *fructu* depresso globoso sepalis coronato extus plus minus verrucoso.

Angola: plentiful east of Rio Cueba; between Rio Cambambe and Rio Cuatiri, *Gossweiler*; n. 2609; in open dwarf thickets at Kassuango Kuiri, *Gossweiler*; n. 3361.

An evergreen shrub with a woody rootstock. *Leaves* 5-7.5 cm. long, 20-25 mm. broad; petiole  $\pm$  2 mm. long. *Flowers* fragrant, rose-white to pure white (*Gossweiler*). First verticil petaloid, cupuliform, with about 35 ribs, 45-50 mm. in diameter; second verticil of radiating linear segments; third verticil of about 40 flat linear segments united into a cup below; interior verticil inflexed. *Ovary* 5-locular. *Fruit* crowned with the remains of the calyx, depressed-globose, verrucose externally.

This species is easily distinguished by the rather small, coriaceous, oblong-oblancheolate or oblong leaves, 5-7.5 cm. long, 20-25 mm. broad, blunt at the apex, and by the flowers at the apex of branchlets, with a cupuliform, petaloid, first verticil 45-50 mm. in diameter.

**Napoleona Talbotii** Bak. fil. sp. nov. Arbor ramulis glabris subangulatis; *foliis* subcoriaceis glabris oblongis vel oblongo-oblancheolatis apice in acumen attenuatis basi late cuneatis nervis lateralibus utrinque 8-9 prope marginem arcu intramarginali conjunctis petiolo brevissimo superne canaliculato quam lamina circ. 40-plo brevior; *floribus* majusculis e trunco ortis plus minus aggregatis (5-10) distincto pedicellatis; *verticillo primo* petaloideo albo-lacteo plus minus fissis; *verticillo secundo* in lacinias liberis fissis; *verticillo tertio* e filamentis superne liberis inferne in cupulam connatis; *verticillo interiore* e filamentis composito et



centrum versus inflexo; *ovario* infero 5-loculari; *fructu* depresso globoso calycis limbo coronato 10-lobato.

Oban; n. 195. In flower August 10.

*Leaves* 14–20 cm. long, 4·5–5 cm. broad; petioles about 2 mm. long. *Sepals* greenish-cream. First verticil cream-coloured, somewhat cut up into segments, 4–5 cm. in diameter; second verticil composed of free segments; third verticil composed of segments free above and connate into a cup below; interior verticil composed of inflexed filaments. *Ovary* 5-locular. *Fruit* depressed-globose, 10-lobed, brown.

The distinguishing features of this species are the oblong or oblong-ob lanceolate acuminate leaves; the medium-sized flowers distinctly pedicellate in clusters of 5–10; the corolla cream-coloured and much cut up; the deep mauve dog-tooth markings at the base of the third whorl; and the 10-lobed fruit.

**Napoleona Gascoignei** Bak. fil. sp. nov. Arbor ramulis glabris; *foliis* oblongis vel oblongo-ob lanceolatis apice in acumen attenuatis basi cuneatis nervis lateralibus utrinque 7–9 prope marginem arcu intramarginali conjungentibus petiolo brevi superne canaliculato quam lamina circ. 60–65-plo brevior; *floribus* inter mediocres generis numerosis (saepissime 10–30) e trunco ortis albis vel lacteo-albis; *verticillo primo* cupuliformi petaloideo orbiculato circ. 25-plicato lacteo-albo; *verticillo secundo* in lacinias lineares et numerosas fisso; *verticillo tertio* basi in cupulam connato superne libero albo; *verticillo inferiore* centrum versus inflexo; *ovario* 5-loculari; *fructu* depresso-globoso conspicue 5-lobato calycis limbo coronato.

Oban, Obutong Road; n. 1223.

*Leaves* 25–26 cm. long, 60–64 mm. broad; petiole about 4 mm. long. *Flowers* in clusters of 10–30. First verticil cream-coloured petaloid orbicular with 25–30 ribs, 30–35 mm. in diameter; second verticil composed of linear free segments; third verticil connate into a cup below, free above, white; interior verticil composed of linear filaments inflexed towards the centre of the flower, white. *Fruit* 3·5–4·0 cm. in diameter.

The distinguishing features of this species are the oblong or oblong-ob lanceolate acuminate leaves; the flowers 30–35 mm. in diameter in clusters of 10–30, first verticil cream-coloured, the remaining portion of the flower white; and the depressed-globose fruit conspicuously 5-lobed, crowned with the remains of the calyx.

Named in honour of Mrs. Trench Gascoigne in recognition of her keen interest in Tropical plants.

**Napoleona Egertonii** Bak. fil. sp. nov. Arbor sec. cl. detectorem; *foliis* oblongo-obovatis subcoriaceis apice cuspidatis basi cuneatis nervis lateralibus utrinque 4–5 arcuatim adscendentibus petiolo brevi suffultis superne nitidis subtus nervis costaque strigoso-pubescentibus; *inflorescentia* maxime mira paniculata pedunculata; *calyce* adhaerente 5-fido laciniiis triangulari-

lanceolatis; *verticillo primo* concavo-hemisphaerico petaloideo; *verticillo secundo* profunde in lacinias angustas et puberulas patentes fisso; *verticillo interiore* margine multifido inflexo; *staminibus* circ. 24 filamentis membranaceis latis; *disco* annulari; *ovario* carnoso loculis 5, stylo pentagono, stigmatibus disciformi pentagono. (Pl. 4B.)

Oban; n. 997.

*Leaves* 17-18 cm. long, 7.5-8.0 cm. broad; petiole about 6 mm. long. *Calyx* about 11 mm. long, laciniae  $\pm$  9 mm. long. First petaloid verticil about 42 mm. in diameter, concave, hemispherical; second verticil deeply cut into narrow puberulous, patent laciniae; interior verticil with multifid margin.

The paniculate inflorescence is a noticeable feature of this species.

Named after the late Governor of Southern Nigeria, Sir Walter Egerton.

#### CLAVIS OF SPECIES OF *NAPOLEONA*.

A. Flowers solitary or in 2's or 3's, very rarely more numerous.

a. Flowers small, 22-25 mm. in diam.

Leaves small, 9-10.5 cm. long, apex very acuminate.

1. *N. parviflora* Bak. fil. ....Oban.

$\beta$ . Flowers small,  $\pm$  26 mm. in diam.

Leaves large,  $\pm$  18-25 cm. long, shortly and bluntly acuminate.

2. *N. Mannii* Miers.....Fernando Po.

$\gamma$ . Flowers medium-sized or large.

(a) Corolla ultramarine-blue.

Leaves oblong-ovate, 11-15 cm. long.

3. *N. imperialis* Beauv.....Benin.

(b) Corolla reddish-purple.

Leaves oblong-elliptical, 9-14 cm. long.

4. *N. Heudelotii* Juss.....Senegambia.

(c) Corolla exterior portion yellow, inside reddish.

Leaves elliptical, rather small, 8-10 cm. long.

5. *N. Vogelii* Hook. & Planch.....Lagos, Cape Palmas.

(d) Corolla exterior apricot-yellow, reddish in middle.

Leaves oblong-elliptical, 11-16 cm. long.

6. *N. Whitfieldii* Lemaire .....Sierra Leone, &c.

(e) Corolla exterior apricot-yellow, interior rose-coloured.

Leaves obovate-oblong, 12-19 cm. long.

7. *N. Miersii* Hook. fil.....Trop. W. Africa, Oban.

(f) Corolla margin pale yellow, purple in middle.

Leaves oblong, cuspidate, 15-21 cm. long.

8. *N. cuspidata* Miers.....Old Calabar.

(g) Corolla at first milky-white, later discolorous.

Leaves oblong-obovate, cuspidate, 12-20 cm. long.

9. *N. Alexanderi* Talbot & Bak. fil.....Oban.  
 (h) Corolla colour not known.  
 Leaves oblong-ob lanceolate or elliptical-ob lanceolate,  
 cuspidate, 18-24 cm. long. Fruit large.
10. *N. megacarpa* Bak. fil.....Oban.  
 (i) Corolla white or rose-white.  
 Leaves small, oblong-ob lanceolate or oblong, 5-  
 7.5 cm. long.
11. *N. Gossweileri* Bak. fil.....Angola.
- B. Flowers in clusters of 5-10, pedicellate.  
 Corolla white, deep mauve dog-tooth marking at base of  
 third whorl.
12. *N. Talbotii* Bak. fil.....Oban.
- C. Flowers in clusters of 10-30.  
 Corolla cream-coloured, rest of flower white with no dog-  
 tooth marking.
13. *N. Gascoignei* Bak. fil.....Oban.
- D. Flowers paniculate.
14. *N. Egertonii* Bak. fil. ....Oban.

### CRATERANTHUS Bak. fil. gen. nov.

Calycis tubus brevissimus, limbus 3-partitus, lobi coriacei superne herbacei. Series simplex in membranam cupuliformem petaloideam circ. 30-plicatam expansa, margine revoluta breviter lobata, extrinsecus costae maxime prominentes dorso supra medium processu brevi crassiusculo compresso onustae. Stamina numerosissima,  $\infty$ -seriata; filamentis elongatis antheris basifixis longitudinaliter dehiscentibus. Stylus crassus, apicem versus attenuatus; stigmatibus parvis. Ovarium semi-superum, 3-loculare, ovulis in quoque loculo pluribus, campylotropis. Discus parvus, integer, ovarium circumdans.

Arbor. Rami alati. Folia alterna brevipetiolata semper-virentia integerrima pennivenia impunctata. Flores speciosi ad axillas solitarii. Bractae paucae vel numerosae imbricatae ovatae semiamplexicaules externe parvae interiores gradatim majores.

This interesting novelty is intermediate in structure between the genera *Napoleona* and *Asteranthos* a Tropical South American genus. It differs from *Napoleona* in having only a single whorl between calyx and stamens, and not 3 as in that genus. It differs from *Asteranthos* in the calyx, &c. The terminology of the different parts of the flower of these curious and somewhat anomalous Myrtaceæ differs in different botanical works. Dr. Niedenzu, in Engl. & Prantl Pflanzenfamilien III. 7, considers these plants apetalous.

**C. Talbotii** sp. unica. Arbor alta sec. cl. detectorem, ramulis bilateraliter late alatis; *foliis* alternis majusculis brevissime petiolatis tenuiter coriaceis griseis utrinque glabris costa subtus conspicua basi saepe inaequaliter subcordatis apice saepissime acutis apice ipso obtusis nervis lateralibus utrinque 10–14 prope marginem arcu intramarginali conjunctis; *floribus* axillaribus solitariis; *calyce* coriaceo superne membranaceo 3-partito aestivatione valvato; *serie simplici* in membranam cupuliformem petaloideam circ. 30-plicatam connata margine recurvata punicea; *staminibus* numerosis epipetalis basin versus corollae insertis pluriserialibus; *stylo* lineari-filiformi, stigmate parvo; *ovario* semisupero ovulis in quoque loculo pluribus. (Pl. 5.)

Oban, Ndekke, Ekong Road; n. 5.

*Tree*  $\pm$  36 metres. *Branches* dull grey-green or brown, winged in parts. *Leaves* of form with crimson flowers 25–40 cm. long, 8–10 cm. broad; leaves of form with rose-pink flowers smaller oblong-obovate, or oblong greyish; costa prominent below; petioles thick, 3–4 mm. long. *Flowers* showy. *Bracts* pale green. *Staminodial corona* cupuliform, about 30-ribbed, margin revolute, creamy-white, ribs pink, between ribs bright cerise (*vide* Mrs. Talbot), 30–35 mm. high. *Fruit* shaded carmine (*vide* Mrs. Talbot).

Var. **parvifolia**. Folia quam ea typi minora et apice obtusiora; *floribus* roseis.

Oban; n. 5A.

This variety differs in having shorter blunter leaves and rose pink flowers.

*Leaves* 15–16 cm. long, 7–9 cm. broad.

Var. **multibracteata**. Folia glauco-viridia iis typi sub-similia; a typo differt bracteis numerosioribus in seriebus 4–5 dispositis.

Oban; no. 1643.

Differs from the type in having the bracts in 4–5 rows instead of generally 2.

## MELASTOMACEÆ.

**Dissotis Talbotii** Bak. fil. sp. nov. Suffrutex videtur, caule erecto ramoso  $\pm$  angulato plus minus scabro; *foliis* ovato-lanceolatis distantibus petiolatis apice basique acutis 5-nerviis utrinque pilis conspersis petiolo superne canaliculato ad  $\frac{1}{4}$  longitudinis laminam subaequante; *floribus* in capitulis dispositis, capitulis bracteis involucretis breviter pedunculatis saepe 5–7-floris; *bracteis* late ovatis apice mucronatis; *calycis tubo* ovoideo-globo apicem versus annulis 2 ciliarum circumdato laciniis lanceolatis glabris; *petalis* margine ciliatis; *ovario* disco setoso coronato 5-loculari.



Oban; n. 591.

Apparently an undershrub with ascending branches. *Leaves* 7–11 cm. long, 23–27 mm. broad, covered with hairs on both sides; petioles 15–17 mm. long. *Flowers* in dense pedunculate capitula. *Calyx-tube* with 2 rings of bristles towards the apex—the upper ring complete, the lower more or less incomplete.

This species is allied to *Dissotis capitata* Hook. fil. The distinguishing features are the erect branching stem; the ovate-lanceolate, petiolate, 5-nerved leaves; the pentamerous flowers in dense generally 5–7-flowered pedunculate heads; the calyx-tube surrounded near the apex with two rings of bristles, the upper a complete ring, the lower incomplete.

**Memecylon applanatum** Bak. fil. sp. nov. Frutex ramis teretiusculis cortice cinereo tectis; *foliis* breviter petiolatis oblongis vel ellipticis coriaceo-papyraceis utrinque opacis apice longissime acuminatis basi cuneatis 1-nerviis nervis transversalibus subtus non vel vix conspicuis venis omnino inconspicuis; *floribus* in foliorum axillis in cymas subumbelliformes breviter pedunculatas dispositis pedunculis applanatis cymis paucifloris pedicellis mediocribus; *receptaculi* parte superiore pateriformi; *sepalis* triangulariformibus; *petalis* late ovatis latioribus quam longis staminibus aequalibus filamentis filiformibus; *antheris* brevibus loculis rima antice dehiscentibus; *ovario* omnino adhaerente; *stylo* filiformi staminibus aequilongo vel paullo longiori.

Oban; n. 1606.

*Shrub* about 3 or 4 metres high (*vide* Mrs. Talbot). *Leaves* 18–20 cm. long, 5·5–7·0 cm. broad; petioles 5–7 mm. long, 1-nerved; lateral nerves inconspicuous. *Flowers* in the axils of the leaves in 3–5-flowered pedunculate subumbelliform cymes. *Peduncles* flattened, 5–8 mm. long. *Pedicels* slender terete, 5–8 mm. long.

The noticeable features of this species are the coriaceo-papyraceous, oblong or elliptical, 1-nerved leaves, generally 18–20 cm. long; the flowers in the axils of the leaves in subumbelliform 3–5-flowered pedunculate cymes; and the flattened peduncles 5–8 mm. long.

[Calyx palest green, petals thin cobalt-blue, filaments thin blue, anthers pale yellow.—P. A. T.]

**Memecylon obanense** Bak. fil. sp. nov. Frutex ramulis subteretibus brunneis; *foliis* crassiusculis ellipticis vel oblongis apice acuminatis basi acutis subtus jugo laterali tenui prope marginem percurrente in nervulos utrinque 9–10 transversales curvato at illis aequivalido venis supra inconspicuis; *floribus* paniculato-cymosis cymis in axillis foliorum dispositis laxe multifloris pedicellis tenuibus; *bracteolis* ad pedicellorum basin brevibus; *receptaculi* parte superiore pateriformi vix dentato; *petalis* concavis latioribus quam longis margine hyalinis; *staminibus* stylo subaequilongis; *stylo* tereti; *fructu* ignoto.

Oban; n. 486.

*Shrub* 3-4 metres (*vide* Mrs. Talbot). *Leaves* with lateral nerves not conspicuous above, intramarginal nerve not conspicuous, curving to meet each of the lateral nerves, 10-17 cm. long, 4-6 cm. broad; petiole 5-7 mm. long. *Flowers* paniculate. *Cymes* 4.0-6.5 cm. long, reaching  $\frac{1}{4}$ - $\frac{1}{3}$  the length of the leaves, laxly many-flowered. *Calyx* hardly dentate at the margin. *Petals* rather broader than long,  $\pm$  2.5 mm. long, 3.5-4.0 mm. broad.

Allied to *M. calophyllum* Gilg, but differs in the much larger inflorescence, &c.

The distinguishing features of this plant are the rather thick, oblong or elliptical leaves, 10-17 cm. long, the lateral nerves not being very conspicuous above; the marginal nerve is about 1-2 mm. from the margin, and curves to meet each of the lateral nerves; the paniculate cymes in the axils of the leaves are 4.0-6.5 cm. long.

**Memecylon Zenkeri** Gilg var. nov. **parvifolium** Bak. fil. Frutex; *foliis* breviter petiolatis subcoriaceis vel rigide chartaceis ovatis apice acuminatis basi acutiusculis jugo laterali in nervulis utrinque 8-10 valde curvato et illis manifeste conspicuis aequivalido; *floribus* pedicellatis pedicellis in foliorum axillis dispositis cymis 2-6-floris; *bracteis* ad pedicellorum basin parvis; *petalis* ovatis.

Oban; n. 1739.

*Leaves* 5-10 cm. long, 2.5-3.8 cm. broad; petiole 2-3 mm. long. Differs from the type principally in the ovate-acuminate smaller leaves.

Allied to *M. Wilverthii* De Wild.

## COMBRETACEÆ.

**Combretum paucinervium** Engler & Diels var. nov. **obanense** Bak. fil. Frutex vel arbuscula; *foliis* coriaceis ovato-oblongis apice acuminatis basi late cuneatis nervis lateralibus utrinque circ. 6; *floribus* minutis patentibus; *receptaculo superiore* subpatelliformi extus lepidotulo; *petalis* quam in typo angustioribus apice saepissime glabris.

Oban, Obutong Road; n. 1676.

*Leaves* 7.5-11 cm. long, 4.4-5.5 cm. broad; petioles 9-10 mm. long. *Petals* narrow.

Differs from the type in the leaves being broadly cuneate at the base, and the petals being narrow and generally glabrous at the apex.

## GAMOPETALÆ.

By H. F. WERNHAM, B.Sc.; excepting Compositæ, Asclepiadaceæ (Loganiaceæ (in part)), and Acanthaceæ, by SPENCER MOORE, F.L.S.; and Convolvulaceæ, by Dr. A. B. RENDLE, F.R.S.

## RUBIACEÆ.

This family is the most numerously represented in the whole collection, and some valuable additions—in the way both of rare species already described and of novelties—have been made. There are 35 new species, and of these six belong to four new genera—*Afrohamelia*, *Dorothea*, *Diplosporopsis*, *Globulostylis*—the two latter including each two species. *Afrohamelia* is interesting as being nearly related to *Hamelia*, a genus confined to the tropics of the New World; and its morphology is particularly curious. The bracts are large and foliaceous, the inflorescences appearing to arise from the middle of the stalk, to which the peduncle is adnate; the leaves are almost exactly similar, but much smaller. *Dorothea*, a near ally of *Randia*, is especially interesting for its zygomorphic flowers—a rare feature in this family. *Sabicea* has yielded as many as four very distinct new species. *Randia Talbotii* has large showy flowers  $2\frac{1}{2}$  decimetres long. *Coffea Talbotii* is a curious new species which I have assigned to this genus only after considerable hesitation; the fruit is a red fusiform berry, crowned by the persistent calyx-limb.

*Cremaspora Thomsoni* Hiern. Hiern's description (Fl. Trop. Afr. iii. 126) seems to have been based on immature flowers; the Talbot specimen (n. 1049) affords excellent material. The corolla-tube is 7 mm. and the lobes 6 mm. long, and the fruit, hitherto unavailable, is 1.5 cm. long.

*Coffea subcordata* Hiern. The corolla-lobes and stamens are much larger than stated in Fl. Trop. Afr. iii. 184, but the Talbot plant (n. 243) is otherwise identical with the type, and agrees with the original description in Trans. Linn. Soc. ser. II. i. 174.

*Cephaëlis Mannii* Hiern n. 154. The peduncles are several feet long, instead of about 1 foot, as known from previous specimens.

**Uncaria Talbotii** Wernham sp. nov. Frutex ramulis tetragonis in angulis pubescentibus; *foliis* latiuscule lanceolatis breviter acuminatis apice obtusiusculo basi rotundatis, supra glabris infra praecipue super venas ferrugineo-pubescentibus, nervis secundariis distantibus, petiolo breve puberulo; *floribus* majusculis pro rata longe pedicellatis; *calyce* ut pedicello dense ferrugineo-sericeo, tubi parte epigyna infundibulari ovarium excedente lobis triangularibus obtusis; *corollae* extus griseo-sericeae tubo gracili longissimo lobis oblongis mucronulatis; *stigmatibus* parum ampliatis.

Oban; n. 168.

*Leaves* 9–11 cm. long, 3–4 cm. broad; petioles to 9 mm. long. *Capitulum* 8–9 cm. in diameter. *Pedicels* to more than 1 cm. long. Part of *calyx-tube* above ovary 3 mm. long, lobes 1.5 mm. long. *Corolla-tube* 2.5 cm., lobes 5 mm. long, 3 mm. broad.

Differs from *U. africana* G. Don, the only other African species hitherto described, especially in the much longer corolla-tube and in the hairy covering of the shoot.

**Pausinystalia Talbotii** Wernham sp. nov. Arbor *Corynanthis* habitu nisi inflorescentia glabra; *foliis* elliptico-oblongis glaberrimis supra nitentibus, utrinque brevissime acuminatis apice subacuto, petiolis longiusculis, venis prominentibus mediana supra canaliculata; *stipulis* lanceolatis mox deciduis; *floribus* sessilibus in paniculis multifloris trichotomis minutissime fulvo-pubescentibus longiuscule pedunculatis nec folia excedentibus; *calyce* extus ut inflorescentiae ramulis induto dentibus deltoideis minutis intus dense tomentosus; *corollae* glaberrimae tubo intra calycem brevissime cylindraceo supra globoso sulcato, lobis linearibus crassiusculis.

Oban; n. 1493.

*Leaves* 12–16 cm. long, 5–6 cm. broad, with 10–12 secondary veins on each side of the midrib, making with it an angle of about 50°, somewhat curved. *Stipules* 1.5 cm. long, 3–4 mm. broad. *Flowers* about 1 cm. long, of which about 1 mm. is occupied by the calyx. *Corolla-lobes* 7–8 mm.

This species is readily distinguishable from those previously described by the relatively thick corolla-lobes and the conspicuously pubescent calyces.

**Mussaenda Afzelioides** Wernham sp. nov. Frutex scandens ramulis teretibus vel sulcatis fulvo-tomentosis; *foliis* ovalibus breviter acuminatis acutis basi plerumque obtusis, infra pallidioribus, utrinque breviter scabro-hispidis, venis praesertim subtus conspicuis, petiolo breve; *stipulis* triangularibus extus dense sericeo-pubescentibus acutis saepius bifidis; *floribus* in cymis pedunculatis tomentosus densis pedicellatis; *calycis* lobis oblongis acutis extus appresse flavo-pubescentibus, uno nonnunquam in laminam petiolatam ovalem hispidam basi angustatam apice



rotundato vel mucronulato obtuso producto; *corollae* tubo gracili extus infra puberulo insuper adpresse-tomentoso pilis nec deflexis, lobis parvis ovatis acuto-acuminatis.

Oban; n. 212.

*Leaves* 12–14 cm. long, 6–7 cm. broad; lateral veins, 12–14 pairs, tertiary veins oblique. *Stipules* 6 mm. long. *Calyx* 4 mm. long, lobes 2·5 mm. long, rather more than 1 mm. broad; the foliaceous lobe about 7·5 cm. long, 3·5 cm. broad, with stalk nearly 1·5 cm. long. *Corolla-tube* 2·2 cm. long; limb 1·3 cm. wide.

Like *M. Afzelii* G. Don, in the vegetative organs, but at once distinguishable by the pedicellate flowers, the smaller calyx and the indumentum of the corolla.

**Urophyllum Talbotii** Wernham sp. nov. Frutex ramulis divaricatis gracilibus puberulis; *foliis* ellipticis vel elliptico-oblongis acuminatis utrinque acutis, siccitate infra rubescentibus, utrinque nisi super venas infra obscure puberulas glaberrimis, nervo mediano veluti secundariis paucis distantibus infra conspicuis supra obscuris tertiariis utrinque conspicuis plurimis transversis approximatis, petiolo brevi puberulo; *stipulis* subulatis; *floribus* pentameris parvis minutissime puberulis pedicellatis axillaribus solitariis vel in cymis 2–3-floris sessilibus; *calycis* limbo patente brevissime denticulato.

Oban; n. 225.

*Flowering branches* 20–30 cm. long. *Leaves* 3·5–8 cm. long  $\times$  1·5–2·8 cm. broad; petioles to 4 mm. long; secondary lateral veins 4–5 pairs. *Stipules* 6 mm. long. *Flower-buds* 3·5 mm. long, pedicel 1·5 mm.

Near *U. Afzelii* Hiern, differing in the much broader leaves with close transverse venation of the tertiary nerves, and in the solitary or subsolitary flowers.

**Sabicea geophiloides** Wernham sp. nov. Herba hirsuta repens caule prostrato radicante; *foliis* parvis ovatis vel ellipticis basi acutis apice obtusis utrinque hirsutis, petiolo hirsuto longiusculo; *stipulis* breviter oblongis rotundatis extus pilosis intus glabris mox reflexis; *floribus* sessilibus in capitulis pedunculo gracile ut bracteorum late ovatorum involucria sparsiuscule piloso; *ovario* pilis articulatis ascendentibus dense hirsuto; *calycis* tubo cylindrico et lobis longe lineari-lanceolatis tubum excedentibus pilis similibus patentibus multo minus dense induto; *corollae* anguste infundibularis tubo extus pubescente lobis triangularibus glabratibus erectis.

Oban; n. 255. Nkami.

*Erect shoots* about 5 cm. high. *Leaves* 3–3·5 cm. long, 1·5–1·8 cm. broad; petiole 5–10 mm. long; lateral veins 6–9 pairs, not very distinct, even on the lower side. *Stipules* 3·5 mm. long, 3 mm. broad at base. *Peduncles* over 2 cm. long. *Bracts* 1·3 cm. long, 8 mm. broad. *Ovary* 7 mm.; calyx-tube 4 mm.; lobes 8–9 mm.

long, the latter over 1 mm. broad. *Corolla-tube* 1·2 cm. long, nearly 5 mm. wide at the mouth; lobes 3·5 mm. long.

The nearest affinity seems to be with *S. pilosa* Hiern, but there are several points of essential difference.

**Sabicea pedicellata** Wernham sp. nov. Frutex scandens ramis florentibus teretibus junioribus cano-araneoso-pubescentibus demum glabrescentibus; *foliis* breviuscule petiolatis ovato-ellipticis obtusiusculis basi subrotundatis acuminatis obtusis supra glabris subtus dense lanato-tomentosis discoloribus; *stipulis* a basi lata ovatis obtusis diutius persistentibus demum reflexis; *capitulis* axillaribus multifloris longiuscule pedunculatis, pedunculis tomentosis multo petiolos excedentibus, bracteis paucis ovatis vel orbicularibus extus tomentosis vix basi connatis uniseriatis involucrentibus; *floribus* pedicellis longis tomentosis; *calyce* extus breviuscule brunneo-griseo-lanato, lobis brevibus oblongis subacutis intus discoloribus glabris tubum aequantibus demum reflexis; *corolla* tubulosa a basi gradatim leniter ampliata lobis deltoideis parvis dorso pubescentibus extus nisi loborum basin versus puberulam glabrata; *ovario* pentamero.

Oban; n. 1367; Obutong, old road from falls.

*Leaves* 8–10 cm. long, 3·5–5 cm. broad; petioles to about 1 cm. long; secondary lateral veins 12–14 pairs; stipules 4 mm. long, 2·2 mm. wide. *Peduncles* 1·5–3 cm. long; capitula 2 cm. in diameter. *Bracts* 5·5 mm. long, 5 mm. wide. *Pedicels* to 5·5 mm. long. *Calyx*, including *ovary*, 2 mm. long; lobes 2 mm. long, 1 mm. broad. *Corolla* to 8 mm. long, 2·5 mm. wide at the mouth; lobes scarcely 1 mm. long.

Near *S. capitellata* Benth., but distinguished among other features by the long peduncles and pedicels, the uniseriate involucre, and the short relatively broad calyx-lobes.

**Sabicea xanthotricha** Wernham sp. nov. Frutex ramulis praecipue novellis dense et patule flavo-griseo-hirsutis demum glabrescentibus; *foliis* inter maxima chartaceis elliptico-ovatis vel oblongis, apice subacuto leniterque acuminato basi acutis vel subrotundatis, petiolo longo sparsim tomentoso necnon pilis paucis, supra subnitentibus ad venam medianam densiuscule aliter sparse pilosis margine dense ciliolato subtus hispidiusculis praesertim in venis approximatis obscure tomentosis; *stipulis* inter maximas lanceolatis vel ovato-orbicularibus acutis extus ad basin pilosis insuper glabris minute papillosis; *floribus* pedicellatis in cymis capitulatis exinvolucratis caulifloris sessilibus dispositis; *calycis* pubescentis tubo breviter cylindraceo lobis longe filiformibus rigidiusculis; *corolla* anguste tubulosa insuper ampliata glabra lobis parvis triangularibus; *ovario* quadriloculare; *fructu* baccato glabro a calycis limbo laciniisque persistentibus coronato.

Oban; n. 249.

*Leaves* reaching 45 cm. long, 18 cm. broad, with petiole 5 cm.

long; secondary lateral veins about 24 pairs. *Stipules* 2·7-3·4 cm. long, 1·2-2·2 cm. wide. *Fruiting pedicels* about 5 mm. long. *Calyx-tube* with ovary 4 mm., lobes nearly 1 cm. long. *Corolla* 1·5 cm., lobes barely 1 mm. long.

Near *S. geantha* Hiern, but differs in the habit, indumentum, the longer calyx-lobes and the four-celled ovary.

**Sabicea Talbotii** Wernham sp. nov. Frutex sarmentosus ramulis strigosis; *foliis* ellipticis supra scabrellis subtus sparsissimis nisi in venis densiuscule strigosis, petiolo strigoso brevi; *stipulis* ovalibus pro genere inter minores; *floribus* in capitulis brevissime pedunculatis confertis; *bracteis* paucis ovalibus involucrentibus basi connatis; *calycis* limbo in laciniis brevibus linearibus diviso; *corolla* extus superne strigosa lobis brevibus angustis; *ovario* extus densissime cano-sericeo-hirsuto.

Oban; n. 2032.

*Leaves* 8-9 × 3·5-4 cm.; petiole up to 1 cm. *Capitula* about 1 cm. in diameter. *Calyx-lobes* 3 mm.; *corolla* 1 cm. long.

Near *S. capitellata* Benth., but readily distinguished by the indumentum of the leaves and bracts, and the tendency to aggregation of the capitula at the ends of the flowering shoots.

#### AFROHAMELIA Wernham, Hameliarum nov. gen.

*Calycis* tubus hemisphaericus; limbi lobi 5 brevissimi erecti persistentes. *Corolla* subcampanulata, in alabastro oblongo acuminato plerumque costata, basi nec constricto, fauce glaberrima; limbi lobi 5, breves triangulares stricte contorti. *Stamina* 5, tubo corollae basin versus inserta, filamentis brevibus; *antherae* basifixae inclusae, anguste lineari-elongatae, basi bifidae. *Discus* tumidus. *Ovarium* 2-loculare; *stylus* breviusculus, stigmate anguste fusiformi sulcato; *ovula* in loculis perplurima, placentis septo affixis inserta. *Bacca* magna oblonga utrinque angustata disco tumido coronata 2-ocularis polysperma. *Semina* minima valde rugosa et angulata, testa non sculpta.

Arbores vel frutices saepius scandentes ramulis validiusculis. *Folia* opposita petiolata, *stipulis* interpetiolaribus. *Flores* in cymis abbreviatis paucifloris lateralibus quisque bractea magna foliacea stipata dispositi.

A very distinct genus, the nearest ally being the tropical American *Hamelia*, from which this differs chiefly in the contorted aestivation of the corolla and the large two-chambered oblong fruit; the latter recalls many species of *Hamelia* in the persistent and conspicuous disc. The corollas in the two genera are very similar, both in bud and in open flower; but the characteristically ventricose base of the tube in *Hamelia* is absent in our genus. The typically secund arrangement of the flowers in the American genus does not occur in the type of *Afrohamelia*; and the large foliaceous bract subtending each cyme is distinctive.

*Afrohamelia bracteata* Wernham sp. unica. Frutex scandens glabrescens ramulis tortis curvatis divaricatis novellis minute pubescentibus; *foliis* ovato-oblongis basi subcordatis acuminatis apice obtuso, utrinque nisi infra in vena media et venarum secundarum axillis minute puberulis pilis basi bulbosis glabris, petiolo longiusculo pubescente; *stipulis* minute pubescentibus brevissimis latissimis breviter apiculatis persistentibus; *cymis* parvis inconspicuis, pedunculo tenui longiusculo glabro; *bractea* petiolata foliis simili multo tamen majore ovali basi acuta vix acuminata, petiolo ad pedunculum longiuscule adnato; *calyce* pubescente; *corolla* extus subglabra lobis latis obtusis marginibus involutis; *bacca* glabra. (Pl. 6.)

Oban; n. 1662.

The cymes are really terminal on short axillary shoots, but they appear to be borne laterally on the stalks of the large leaf-like bracts. The *true leaves* are 7-10 cm. long and 3-6 cm. broad, with petioles up to 2.5 cm. long. *Stipular band* barely exceeding 1 mm. in width; apiculus about the same length. The *bracts* are 14-17 cm. long and 9-11 cm. broad, with stalk 2.5 cm. or more long. The *cymes*, at most 1.5 cm. long, are borne, on peduncles 2-3 cm. long, terminally on lateral shoots about 1 cm. in length. *Calyx* less than 1 mm. long; corolla-tube 9 mm. long, 4 mm. wide above; lobes over 2 mm. long and 3 mm. broad at the base. *Anthers* 3 mm.; style and stigma 5 mm. long. *Fruit* 3 cm. long, including the persistent disc, 3-4 mm. long, and 1 cm. in diameter.

*Tarenna Talbotii* Wernham sp. nov. Frutex ramulis sulcato-quadrangularibus internodis longiusculis minute strigillosis; *foliis* ellipticis utrinque angustatis breviter acuminatis apice obtuso, utrinque nisi in venis strigillosis glaberrimis petiolatis; *stipulis* triangularibus acuminatis nigricantibus; *floribus* subsessilibus in cymis trichotomis ramulis griseis strigilloso-pubescentibus confertis, cymulis longiuscule pedunculatis bracteis stipulis forma similibus sed minoribus; *calycis* extus griseo-sericei dentibus brevissimis triangularibus acutis; *corollae* extus glaberrimae tubo brevi lobos oblongos obtusos nec multo superante.

Oban; n. 1548.

*Leaves* 15-20 × 6-8 cm., with petiole not exceeding 2 cm. *Stipules* to 6 mm. × 4 mm. *Calyx* and ovary 3.5-4 mm.; teeth minute. *Corolla-tube* 5 mm.; lobes 4-4.5 mm. *Style* exserted, 5 mm.

Near *T. conferta* Hiern, from which it differs especially in the very short calyx-teeth.

*Tarenna baconoides* Wernham sp. nov. Frutex nisi inflorescentia glaber ramulis curvatis horizontaliter divaricatis; *foliis* elliptico-oblongis breviter pedicellatis basi plerumque rotundatis breviter acuminatis apice obtuso; *stipulis* in brevem vaginam lateraliter ciliatam connatis brevissime acute-apiculatis; *cymis*



pubescentibus terminalibus densifloris trichotomis; *bracteis* subulatis; *calycis* puberuli tubulosi lobis puberulis obtusis tubum vix aequantibus; *corollae* glaberrimae lobis albidis oblongis apice rotundatis quam tubus viridis minoribus; *antheris* linearibus exsertis; *stylo* insuper vix ampliato glaberrimo indiviso; *ovula* pauciuscula.

Oban; n. 1595.

*Leaves* 8–15 cm. long, 3·5–5 cm. broad; petiole, to about 1·3 cm. long; lateral veins 5–6 pairs. *Stipules* barely 3 mm. long. *Cymes* 3–4 cm. wide, and the same length. *Calyx-tube* and lobes, each about 2 mm. long. *Corolla-tube* 7–8 mm. long; lobes 7 mm. long, 3 mm. broad. *Anthers* 6·5 mm. long, style exserted about 8 mm.

*Randia immanifolia* Wernham sp. nov. Arbor ramulis glaberrimis validis angulatis; *foliis* inter maxima omnino glabris sessilibus obovatis vel oblanceolatis basi angustatis subauriculatis; *stipulis* validissimis coriaceis suborbicularibus extus asperis intus sericeis apice acuminatis basi breviter connatis, *inflorescentias* axillares densissimas sessiles subvaginantibus; *floribus* fortiter suaveolentibus sessilibus densissime glomeratis; *calycis* brevissimi tubo late campanulato pubescente, lobis linearibus demum reflexis densissime cano-villosis; *corollae* tubo gracili insuper leniter ampliato extus modice pubescente hispidulo, lobis sinistro contortis 6–8 vel pluribus oblongis longiusculis pubescentibus subacutis; *antheris* oblongo-linearibus subsessilibus; *ovario* saepius triloculare; *stigmatibus* brevissime 3-lobatis; *baccis* globosis maculatis.

Oban; n. 189.

*Leaves* about 100 cm. long, 32 cm. wide. *Stipules* usually about 3 cm. long, 3–5 cm. wide. *Calyx-tube* 5 mm. long, lobes 3 mm. *Corolla-tube* 4·5–8 cm. long; lobes 1·5 cm. long.

Readily distinguished by the very large sessile leaves and the tough stipules enclosing the long sessile polymorous flowers with their whitish hairy calyces densely pressed together.

The material, which includes a single leaf only, is supplemented by an excellent line-drawing by Mrs. Talbot, with several notes, which have been used in the above description.

*Randia Talbotii* Wernham sp. nov. Arbor ramulis strictis glabrescentibus cortice rugosulo; *foliis* coriaceis glaberrimis obovato-lanceolatis breviter acuminatis apice acuto basi angustatis venis paucis infra conspicuis, petiolo valido aspero breviusculo lignoso transversim rugosulo; *floribus* 5-meris axillaribus solitariis vel per paria pedicellatis bracteis lanceolatis bracteolis triangularibus parvis ut pedicelli crassi minute rufo-pubescentibus; *calycis* pubescentis tubo cylindrico insuper ampliato valde angulato dentibus subulatis prolongatis; *corollae* carnosae dense brunneo-pubescentis tubo longissimo gracili insuper gradatim nec

multo ampliatio, lobis late ovatis acutiusculis basi intus maculatis; *antheris* oblongis ut stigma clavatum vix exsertis.

Oban; n. 217.

*Leaves* 17–19 cm. long, 6–7 cm. broad; petioles up to nearly 2 cm. long; secondary veins 7–8 lateral pairs. *Floral pedicels* 2 cm. or more long. *Calyx-tube* 2·3 cm. long, 7 mm. wide above; teeth 1 cm. long or more. *Corolla-tube* 20–25 cm. long, about 2·5 cm. wide at the mouth; lobes 4·5 cm. long, about 2·5 cm. wide. *Anthers* 5·5 cm. long.

Near *R. malleifera* Benth. & Hook. fil., but differs in its much longer corolla-tube which is gradually and but little widened towards the top.

### DOROTHEA Wernham, Gardeniearum gen. nov.

*Calyx* turbinatus denticulatus vel subinteger calyculatus. *Corolla* zygomorpha tubo plus minus elongato incurvo in maturitate fere ad basin fissio, intus infra medium villosa; limbi lobi plerumque 6, ascendentes vel suberectis stricte contorti. *Stamina* 6 faucis corollae inserta; *antherae* dorso affixae, sessiles, anguste lineares. *Discus* brevissime cylindricus, sparse pilosus. *Ovarium* 2-loculare; *stylus* simplex validiusculus glaber e medio floribus pendulus, stigmate indiviso; *ovula* in loculis haud numerosa, in placentis carnosis oblongis a septi apice pendulis immersa. *Fructus* . . .

Arbores vel frutices. *Folia* opposita. *Flores* inter majusculos in cymis paucifloris axillaribus dispositi.

A genus allied to *Randia*, but at once distinguished by the characters of the corolla and style.

*Dorothea Talbotii* Wernham sp. unica. Arbor ramulis glabris gracilibus mox cortice dilute cinereo indutis; *foliis* ellipticis utrinque angustatis glabris acutis brevissime petiolatis, venis secundariis paucis infra conspicuis ascendentes; *stipulis* persistentibus deltoideis subacutis intus villosis; *floribus* pedicellatis in cymis sessilibus axillaribus 2–3-floris dispositis; *bracteolis* ovatis plerumque 2 paribus in calyculo connatis pubescentibus; *calycis* extus sericeo-pubescentis tubo infundibulari rugoso, limbo discoloris insuper angustato margine subtruncato vel denticulato; *corollae* tubo extus argenteo-sericeo-pubescente in alabastro valde curvato demum rectiore intus inferne glabro insuper usque ad faucem densissime villosa deinde insuper breviter pubescente, lobis undulatis oblongis acutiusculis utrinque pubescentibus per paria dispositis; *antheris* elongatis basi vix bilobatis apice acutis corollae fissione apparentibus conspicuis. (Pl. 7.)

Oban; n. 1546.

*Leaves* 12–18 cm. long, 4·5–8·5 cm. broad; petioles seldom as much as 5 mm. long. *Stipules* 5 mm. long. *Pedicel* about 5 mm. long. *Calyx-tube* and limb each 5 mm. long. *Corolla-tube* about

4·5 cm. long, lobes 1·5 cm. or more long and 5-6 mm. broad; tube glabrous within for 9 mm. above base, this part being succeeded by the densely villous region, over 1 cm. long. *Anthers* 2 cm. long.

**DIPLOSPOROPSIS** Wernham, *Gardeniearum* gen. nov.

*Calycis* tubus obconicus calyculatus; limbus in lobis majusculis latiusculis partitus. *Corolla* hypocraterimorpha tubo mediocre fauce glabra; limbi lobi 5 patentes, stricte contorti. *Stamina* 5 fauci corollae inserta filamentis tenuibus brevissimis; antherae dorso affixae inclusae lineares. *Discus* tumidus. *Ovarium* 2-loculare; stylus brevis glaber, ramis oblongis; ovula in quoque loculo 2 in placenta parviuscula a septi apice pendula vix impressa, majuscula, compressa. *Fructus* . . .

Arbores foliis oppositis, floribus in axillis fasciculatis inter mediocres.

A genus allied to *Tricalysia* and *Diplospora*, distinguished by the arrangement of the ovules and the included anthers, which recall those of *Randia*.

**Diplosporopsis coffeoides** Wernham sp. nov. Arbor glabra; *foliis* magnis obovatis utrinque angustatis basi auriculatis apice caudato-acuminatis brevissime petiolatis, venis supra impressis infra prominentibus; *stipulis* lanceolatis longe setaceo-acuminatis dorso costa mediana conspicua; *florum fasciculis* glabris paucifloris conferte sessilibus; *calyculi* simplicis segmentis ovato-lanceolatis, calycis tubum sulcatum fere excedentibus; *calycis* lobis majusculis ovatis subacutis; *corollae* tubo graciliusculo in staminum regione parum ampliata, lobis oblongis acutis tubi dimidium excedentibus. (Pl. 8.)

Oban; n. 1649.

*Leaves* 30 cm. long together with acumen (nearly 2·5 cm. long), and 11-12 cm. broad; petiole rarely more than 7 mm. long. *Stipules*, including the almost hair-like acumen, 2·5-3 cm. long. *Calyx-tube* 3-4 mm. long, lobes 4 mm. long. *Corolla-tube* 1·5 cm. long; lobes 1 cm. long, 3·5 mm. broad.

**Diplosporopsis Talbotii** Wernham sp. nov. Arbor nisi flores glaberrima ramulis complanatis; *foliis* magnis, brevissime et valide petiolatis, ellipticis vel obovatis basi cordatis subauriculatis inaequalibus, venis praesertim subtus conspicuis, breviter acuminatis apice obtuso; *stipulis* magnis late ovatis longe ac leniter acuminatis acutis; *floribus* in fasciculis axillaribus paucifloris sessilibus; *calycis* lobis pro rata parvis rotundatis obtusis ciliatis intus basi villosis; *corollae* tubo insuper extus minutissime appresse pubescente, lobis carnosiusculis ovato-oblongis obtusis apice reflexo utrinque minute pubescentibus; *antheris* longe linearibus.

Oban; n. 1056.

*Uppermost leaves* 21 cm. long, 9 cm. broad; ordinary leaves

34 cm. long, 20 cm. broad, with petiole about 1·5 cm. long; lateral veins 12–15 pairs. *Stipules* 4·3 cm. long, 2·5 cm. broad. *Corolla-tube* 1·8 cm. long; lobes about the same length and up to 5 mm. wide. *Anthers* 8–9 mm. long.

Distinct from the preceding species in the broader leaves and stipules, the broader and more fleshy corolla-lobes, etc.

***Tricalysia pleiomera* Hutchinson sp. nov.** Species foliis magnis, corollae lobis numerosis mox reflexis, antheris villosis valde distincta.

*Ramuli* subteretes, glabri. *Folia* oblonga, breviter subacutae acuminata, basi rotundata, 20–23 cm. longa, 7·5–8·5 cm. lata, tenuiter chartacea, utrinque glabra, nitidula, nervis lateralibus utrinque 9–10 arcuatim ascendentibus conspicuis infra prominentibus, nervis tertiariis laxis subparallelis distinctis e costa sub angulo recto ortis; petioli 1 cm. longi, plano-convexi, glabri; stipulae intrapetiolares, connatae, truncatae, 2·5–3 mm. longae, intra appresse pubescentes, ciliatae. *Cymae* axillares, subsessiles, 10–15-florae, circiter 3·5 cm. diametro; bractae stipulis similes; pedicelli ad 5 mm. longi, glabri; bracteolae connatae, calycis basin circumdantes, breviter acuminatae, extra puberulae. *Calyx* tubulosus, 4 mm. longus, minute denticulatus, extra appresse pubescens, intra pilis brevibus nigris setulosus. *Corollae* tubus cylindricus, 1 cm. longus, extra costatus, glaber, intra arachnoideo-pubescens, 11–12-lobatus, lobis mox reflexis oblanceolato-obovatis vel subspathulatis breviter acute acuminatis circiter 8 mm. longis et 3 mm. latis extra pubescentibus intra versus apicem puberulis. *Stamina* 11–12; filamenta corollae faucibus inserta, erecta, 5 mm. longa, glabra; antherae erectae, 5 mm. longae, villosae. *Ovarium* 3-loculare, loculis circiter 4-ovulatis; stylus exsertus, 1·5 cm. longus, basin versus glaber, superne pubescens, bilobus, lobis 2·5 mm. longis obtusis.

Oban; n. 1277 (Herb. Kew.). [J. H.]

***Cremaspora glabra* Wernham sp. nov.** Frutex nisi foliorum basis saepe puberulus glabratus, ramulis gracilibus rectis horizontaliter divaricatis; *foliis* lanceolatis vel ellipticis vel oblongis utrinque angustatis basi nonnunquam subrotundatis acuminatis apice obtuso, breviter petiolatis, venis secundariis infra conspicuis, paucis distantibus; *stipulis* deciduis brevissimis latis apiculatis; *floribus* glaberrimis in cymis sessilibus axillaribus paucifloris fasciculatis; *calycis* utrinque glabri lobis rotundatis; *corollae* tubo brevi quam lobi oblongo-lanceolati obtusi multo minoribus; *stylo* glabro bilobato.

Oban; n. 1536.

*Leaves* varying from an average of about 7·5 cm. × 2·5 cm. to an oblong shape 9·5 cm. × 4·5 cm.; secondary veins 3–4 pairs; petiole to 5 mm. *Stipules* about 1 mm. long. *Calyx*-segments, 2 cm. × 2 mm.



*Corolla-tube*, 4-4.5 mm. long; lobes, 7.5 mm. long, 2 mm. broad. *Anthers* almost 5 mm. long.

Distinct for its almost complete want of hairs extending even to the style.

**Cremaspora Talbotii** Wernham sp. nov. Frutex ramulis gracilibus junioribus fulvo-pilosis deinde glabrescentibus; *foliis* petiolatis elliptico-oblongis supra glabris infra praecipue super venas fulvo-pilosis basi deltoideis vel vix rotundatis apice breviter acuminato acuto vel obtuso; *stipulis* subulato-setaceis; *floribus* sessilibus in cymulis axillaribus 2-6-floris; *calyce* dense hirtotomentoso; *corolla* nisi in ore pubescente glaberrima.

Oban; n. 287.

*Leaves* up to 8.5 cm. long and 3.5 cm. broad. The densely pilose leaf-stalks are about 6 mm. long usually, and the *stipules*, which arise from a hairy base, measure 7-8 mm. in length. The *calyx* is less than 1 mm. long, the *corolla-tube* barely 3 mm., and the *lobes* about 1 mm.

Related to the East African *C. confluens* K. Schum., but at once distinguished by the indumentum and by the glabrous corolla.

**Vangueria argentea** Wernham sp. nov. Frutex ramulis gracilibus teretibus, novellis tomento ferrugineo minuto indutis; *foliis* brevissime petiolatis ellipticis vel oblongis breviter et obtuse acuminatis basi rotundatis supra nisi in venis puberulis pilis perpaucis minutis sparsissime indutis subtus minutissime et densissime molliter argenteo-pubescentibus valde discoloribus; *stipulis* a basi lato truncato anguste oblongo-apiculatis mox deciduis apicem versus glabrescentibus; *floribus* axillaribus solitariis vel geminis pedicellis basi bracteolatis alabastra obovata acuta acuminato-mucronata aequantibus; *calyce* brevissime dentato; *corolla* extus ut ovarium turbinatum glaberrima ad medium in lobos triangulares subcaudatos divisa; *stigmatibus* lobato; *baecae* pisiformi.

Oban; n. 215.

*Leaves* 9-11 cm. long, 4-5 cm. broad; petiole 2-3 mm. long. *Stipules*, broad basal part 2 mm. long, apiculus a little longer. *Pedicels*, 5-7 mm. *Calyx* with ovary less than 2 mm. long. *Corolla-tube* 3-4 mm. long; lobes the same length, 2 mm. broad at the mouth. *Berry* 6-7 mm. in diameter.

Readily distinguishable by the silvery grey indumentum on the under side of the leaves. Its nearest ally seems to be *V. oxyanthus* K. Schum.

#### GLOBULOSTYLIS Wernham, Vangueriearum gen. nov.

*Calyceis* tubus campanulatus; limbi lobi plerumque 5, foliacei subaequales corollae tubum superantes. Corolla campanulata, tubo brevi intus fauce annulo cirrhoso paleaceo cincto, aliter glabro; limbi lobi 5 subcoriacei plus minus longe acuminati vel caudati, valvati. Stamina 5 ore vel fauce corollae inserta, filamentis

breviusculis ; antherae dorso basi affixae, exsertae, lanceolatae basi loculis discretis. Discus depressus nec lobatus. Ovarium plerumque 5-loculare ; stylus crassiusculus medio in globum depressum corollae fauces claudentem inflatus utrinque attenuatus, stigmatem majusculo mitraeformi peltato ; ovula in loculis solitaria infra apicem loculi pendula amphitropa. Fructus drupaceus majusculus basi plerumque attenuatus.

Arbores vel frutices ; folia opposita, stipulis interpetiolaribus. Flores inter mediocres in umbellis involucrentibus brevibus axillaribus dispositi.

Undoubtedly a member of the tribe Vanguerieae, and unique in the structure of the style. The nearest genus is *Cuviera*, from which this new genus differs further in the regularly simply umbellate and small inflorescences.

**G. Talbotii** Wernham, sp. nov. Frutex ramulis teretibus ; foliis elliptico-oblongis brevissime acuminatis apice subacuto vel obtuso basi acutiusculis, breviter petiolatis, venis infra prominentibus secundariis distantibus ; stipulis a basi lata subulatis acutis ; umbellis per paria in axillis sessilibus, bracteis rotundis ; calycis lobis late ovatis apice rotundato, ciliatis aliter glabris ; corollae tubo conspicue 5-costato, costis prominentibus pilosis superne in caudam villosam prolongatis, lobis anguste triangularibus apicem versus implicatis ; staminibus corollae ore insertis ; ovario 5-loculari, styli globo mediano flavo-hispido, obscure lobato. (Pl. 9.)

Oban ; n. 2051.

*Leaves* 14–18 cm. long, 5–7 cm. broad ; petiole 1 cm. or more long. *Veins* 5–6 on each side of the midrib, anastomosing in arches some distance from the margin. *Stipules* up to 8 mm. long. *Umbels* 2–3 cm. in diameter, 2 cm. long. *Bracts* 2–3 mm. long. *Pedicels* 4 mm. long. *Calyx-lobes* 9 mm. long, 7 mm. wide, tube 2 mm. long. *Corolla-tube* 4 mm. long, the ring of cirrhi inserted at about 1·5 mm. from the base ; lobes 8–9 mm. (including the terminal seta), 3 mm. broad at the base. *Style* 5·5 mm. long ; median globe 3 mm. wide.

**G. minor** Wernham sp. nov. Arbor parva ramulis gracilibus ; foliis oblongis vel obovatis brevissime acuminatis apice rotundato basi acutiusculis, venis distantibus, brevissime petiolatis ; stipulis in brevem vaginam cohaerentibus apice in caudam brevem producto ; umbellis pedunculatis, per paria in axillis dispositis pro rata paucifloris, bracteis in verticillo suborbicularibus ; calycis lobis late ovatis glaberrimis nec ciliatis ; corolla extus glaberrima, lobis brevissime acuminatis vix caudatis glaberrimis ; staminibus corollae ore insertis ; ovario 5-loculari, stylo brevi globo mediano hispidulo ; drupa magna globosa.

Oban ; n. 247.

*Leaves* 11–13 cm. long, 4·5–5 cm. broad ; petiole 3 mm. long. *Stipular sheath* 1·5 mm. ; acumen 6 mm. long. *Peduncle* 6 mm.

long; pedicels 4 mm. *Mature umbels* 2-3 cm. in diameter. *Calyx-lobes* 6 mm. long, 5 mm. wide; corolla-tube 3 mm., lobes 5-6 mm. long. *Berry* over 3 cm. in diameter.

Distinguishable at once from the previous species by the quite glabrous and smaller flowers, and the very short petioles.

**Craterispermum aristatum** Wernham sp. nov. Frutex glaberrimus ramulis flavicantibus; *foliis* elliptico-oblongis vel obovatis brevissime acuminatis apice acuto basi cuneatis, petiolo validiusculo, rigide coriaceis, vena media infra valde prominente supra impressa, nervis secundariis paucis reticulo interveniente supra conspicuo; *stipulis* connatis coriaceis mox deciduis deltoideis; *floribus* in cymis capitatis breviter pedicellatis conspicue aristato-bracteatis sessilibus; *bracteis* subconnatis, lineari-subulatis a basi ovata carinata cymas excedentibus; *calycis* dentibus subulatis tubo multo brevioribus denticulis interjectis; *corolla* extus glabra intus fauce lobisque ovato-lanceolatis subacutis tubo minoribus villosa; *staminum* filamentis antheras excedentibus exsertas; *stylo* incluso apice vix incrassato, stigmate bilobato.

Oban; n. 251.

*Leaves* 15-23 cm. long, 6-8 cm. broad or more; secondary veins about 5 on each side of the midrib; petiole reaching nearly 2 cm. *Stipules* 4-5 mm. long. *Peduncles* 3 mm. long. *Cymes* less than 1 cm. broad. *Bracts* 8 mm. to over 1 cm. long. *Calyx-tube* 1.5 mm., teeth less than 1 mm. long. *Corolla-tube* 6 mm. long; lobes 4 mm. long and 2 mm. broad at the base. *Anthers* little more than 1 mm. long; filaments nearly twice that length. *Style* 2 mm. long.

Conspicuous for the capitate inflorescences with aristate bracts.

**Ixora obanensis** Wernham sp. nov. Frutex glaberrimus ramulis nodosis; *foliis* obovato-lanceolatis breviter acuminatis apice obtusiusculo venis secundariis distantibus petiolo brevi validiusculo; *inflorescentia* laxa trichotoma pauciflora nec ampla breviter pedunculata, bracteis minutiusculis; *floribus* tetrameris inter breviores; *calycis* limbo brevissime dentato; *corollae* lobis obtusis quam tubi gracilis dimidium manifeste brevioribus.

Oban; n. 230.

*Leaves* 18 cm. × 6.5 cm., with 7-8 pairs of manifest lateral nerves, and petiole 5-8 mm. long. *Inflorescence* not more than 5 cm. long, including peduncle barely 1 cm., and about the same width. *Calyx* 2 mm. *Corolla-tube* 13-14 mm; lobes 6 mm. long. *Anthers* 5 mm. long; style exserted 5 mm.

Related to *I. riparia* Hiern and *I. guineensis* Benth., differing from the former in the laxer inflorescence and relatively wider corolla-limb, and from the latter in the shorter flowers, leaves more narrowed at the base, etc.

**Ixora Talbotii** Wernham sp. nov. Frutex ramosus glaberrimus ramulis rectis nodosis; *foliis* oblongo-lanceolatis subcoriaceis utrinque angustatis acutis infra discoloribus venis secundariis

distantibus nec conspicuis brevissime petiolatis; *stipulis* minimis subulato-acuminatis; *inflorescentia* laxiuscula sessile trichotoma nec ampla; *bracteis* minutis; *floribus* inter minores subsessilibus; *calycis* limbo integerrimo; *corollae* lobis 4 subobtusis tubi dimidium vix aequantibus.

Oban; n. 2038.

*Leaves* 11–12 cm.  $\times$  3–3.5 cm.; petioles rarely so much as 5 mm., secondary lateral veins about 6 pairs manifest. *Stipules* about 2.5 mm. long. *Inflorescence* about 3 cm. long and 5–6 cm. wide. *Calyx* and *ovary* 2.5 mm. long. *Corolla-tube* 9 mm.; lobes 3.5–4.0 long. *Anthers* 3–4 mm. long.

Near *I. riparia* Hiern, but distinct in the narrower, thicker leaves, and looser and larger inflorescence, etc.

**Pavetta Talbotii** Wernham sp. nov. Frutex glaber; *foliis* magnis longe petiolatis anguste elliptico-oblongis leniter acuminatis obtusis basi cuneatis valde obliquis; *stipulis* deltoideis validiusculis asperis; *floribus* 4-meris parvis in cymis subsessilibus glabris axillaribus dispositis; *pedicellis* brevibus validis; *calycis* dentibus deltoideis acutis patentibus; *corollae* extus glaberrimae lobis viridibus oblongis intus obscure puberulis apice rotundato reflexis tubum albidum aequantibus vel parum excedentibus; *stilo* exserto stigmatem clavato puberulo; *disco* glaberrimo; *bacca* minima.

Oban; n. 1638.

*Leaves* 32 cm. long, 8.5 cm. broad; petiole about 7.5 cm. long; secondary veins about a dozen pairs. *Stipules* 4–6 mm. long. *Calyx*, including ovary, 2 mm. long. *Corolla-tube* 3.5–4 mm. long; lobes the same length, and 2 mm. wide. *Anthers* 2 mm. long. *Style* exserted about 3 mm. *Berry* barely 2 mm. in diameter.

Notable for the long, rather narrow leaves, and small flowers in abbreviated axillary cymes.

**Coffea Talbotii** Wernham sp. nov. Frutex ramulis gracilibus pubescentibus; *foliis* oblongo-lanceolatis utrinque acutis longiuscule acuminatis apice valde obtuso, utrinque nisi infra in vena media sparsissime puberulis glabris, petiolo brevissimo pubescente; *stipulis* pubescentibus basi triangularibus insuper setaceo-acuminatis; *floribus* parvis solitariis axillaribus, pedicello pubescente longiusculo supra medium et basi bracteolis in calyculis connatis superioribus 2 vel pluribus subulatis stipatis; *calycis* pubescentis limbo subinfundibulari, lobis 4–5 subulatis erectis corollae tubum nonnunquam fere aequantibus; *corollae* tubo breviusculo extus glabro, ore villosa, lobis 6 nisi in margine obscure ciliatis basique pilosis glabris oblongis brevissime acuminatis acutis tubum subaequantibus patentibus; *antheris* exsertis; *bacca* fusiformi minutiuscule et sparse puberula coccinea a calycis limbo persistente coronata.

Oban; n. 1620.

*Leaves* 7–14 cm. long, 3–4 cm. wide; petiole 3 mm. long.



*Stipules* (including seta) 5 mm. long. *Pedicel* about 5 mm. long, increasing to nearly 1·5 in the fruit. *Calyx-limb* about 1 mm. long, with lobes 2 mm. or more long. *Corolla-tube* 4–5 mm. long; lobes 6 mm. long and over 2 mm. broad. *Anthers* 4 mm.; filaments over 1 mm. long. *Fruit* 1·5 cm. long, 6 mm. wide.

A remarkable plant, quite distinct from all other species of *Coffea*, especially in the calyx-limb and fruit. The latter characters almost entitle it to the rank of a separate genus.

*Psychotria alatipes* Wernham sp. nov. Frutex ramulis dichotomis levibus glabris; *foliis* oblanceolatis vel ellipticis basi in petiolum brevem angustatis apice brevissime acuminatis obtusis utrinque glaberrimis venis distantibus reticulo tertiaro manifesto; *stipulis* subcoriaceis apice bifidis ovato-lanceolatis; *inflorescentia* paniculata valde diffusa laxissima pyramidali ebracteata; *pedunculo* longo ramisque anguste alatis; *floribus* longe pedicellatis mediocribus; *bacca* pisiformi costata.

Oban; n. 241.

*Leaves* 12–20 cm. × 5–7 cm., with petiole not more than 1·5 cm.; lateral veins about 10 pairs. *Stipules* 1 cm. × 5 mm. *Peduncle* about 6 cm. long, and 3 mm. broad, including the wings. *Pedicels* 3–4 mm. long, or more. *Inflorescence* about 15 cm. long (including peduncle) and 9 cm. wide.

The nearest affinity seems to be with *P. monticola* Hiern, but the points of distinction are numerous and clear.

*Psychotria obanensis* Wernham sp. nov. Frutex glaber ramulis fragilibus cortice tumido indutis; *foliis* obovatis vel ellipticis breviter acuminatis basi angustatis petiolo gracili longiusculo utrinque glaberrimis venosis membranaceis; *stipulis* ovatis coriaceis concavis deciduis; *inflorescentia* abbreviata subglobosa simplice vel 2–4-divisa ebracteata pedunculis brevissimis; *floribus* pluribus pro genere majusculis 5-meris pedicellis conspicuis; *calyce* campanulato limbo dentibus acutis triangularibus longiusculis; *corollae* tubo cylindraceo fauce dense barbato lobis oblongis apice incurvis.

Oban; n. 244.

*Leaves* 25 cm. × 8 cm. or more; lateral nerves about 15 pairs with conspicuous tertiary reticulum; petiole 2–4 cm. *Stipules* 5 mm. × 3·5 mm. *Peduncles* 5–10 mm. at most. *Pedicels* 2–3 mm. *Calyx* 2 mm., teeth up to 1 mm. long. *Corolla-tube* 4–5 mm.; lobes 1–1·5 mm. long. The whole *inflorescence* rarely so much as 4 cm. broad, each globose cyme about 1·5 cm. broad.

Distinct in its large leaves and compact inflorescences of tubular flowers with toothed calyces. The nearest ally is apparently *P. sciadephora* Hiern, which has smaller leaves with short stalks and much smaller flowers.

*Psychotria Dorotheae* Wernham sp. nov. Frutex ramulis validis; *foliis* magnis late lanceolatis utrinque attenuatis acutis

glaberrimis venis paucis petiolo elongato; *stipulis* inter majores crassis ovatis fere ad medium bifidis densissime ferrugineo-pubescentibus; *inflorescentia* parva globosa densiuscula breviuscule pedunculata ebracteata; *floribus* brevibus subsessilibus pentameris; *calycis* limbo subintegro; *corollae* lobis demum subreflexis ore barbato.

Oban; n. 1561.

*Leaves* over 20 cm.  $\times$  6 cm.; secondary veins 7-8 pairs; petiole 5-7 cm. *Stipules* 1.5 cm.  $\times$  1 cm. *Peduncle* 1.5 cm. *Cyme* 1-2 cm. in diameter. *Flowers* 3-3.5 mm. long.

Near *P. recurva* K. Schum., but differs in the size, shape and venation of the leaves, and the denser, many-flowered clusters.

**Psychotria viticoides** Wernham sp. nov. Frutex glaber ramulis nodosis teretibus levibus; *foliis* ellipticis utrinque acutis glaberrimis venis transversis paucis petiolo longissimo tenero; *stipulis* caducissimis; *inflorescentia* parva laxa ebracteata pauciflora pedunculo gracili longiusculo; *floribus* pro genere majusculis breviter pedicellatis; *calycis* limbo subintegro; *corollae* anguste infundibularis lobis parvis ore nec barbato.

Oban; n. 2080.

*Leaves* about 16 cm.  $\times$  6 cm.; secondary nerves 8 pairs. *Petiole* 7-8 cm. long. *Peduncle* over 3 cm. long. *Pedicels* about 1 mm. *Panicle* about 2 cm.  $\times$  1.5 cm. *Flowers* 5 mm. long.

Near *P. lancifolia* K. Schum., but distinct in the long petioles, larger flowers, etc.

**Psychotria potanthera** Wernham sp. nov. Frutex glaber ramulis medullosis; *foliis* elliptico-oblongis utrinque angustatis venis secundariis distantibus infra prominentibus utrinque glabris petiolo longiusculo; *stipulis* ovato-oblongis caducis; *inflorescentia* parva laxiuscula paniculata breviter pedunculata ebracteata; *floribus* pentameris anguste infundibularibus brevissime pedicellatis; *calycis* limbo integro; *corollae* lobis longiusculis patentibus; *antheris* linearibus longe exsertis; *filamentis* tenerrimis.

Oban; n. 240.

*Leaves* 15-21 cm.  $\times$  5-7 cm.; secondary nerves, about 12 pairs. *Petiole* up to 4 cm. long. *Stipules* 5 mm.  $\times$  3 mm. *Peduncle* barely 1 cm. long. *Panicle* less than 2 cm. across and 1.5 cm. long. *Corollatube* 3.5 mm.; lobes 2.5 mm. *Stamens* exserted up to 4 mm.

Near *P. refractiloba* K. Schum., but distinct in the longer petioles, looser inflorescences, and more slender flowers.

**Psychotria Talbotii** Wernham sp. nov. Frutex glaber ramis striatis teretibus; *foliis* crassiuscule pergamaceis lineari-lanceolatis glaberrimis, basi in petiolum longiusculum leniter angustatis apice obtuso vel subacuto, marginibus revolutis, costa media praesertim subtus prominente, venis secundariis paucis nec conspicuis; *stipulis* brevibus triangularibus apiculatis; *floribus*

glabris pro genere mediocribus pedicellatis in cymis corymbosis 3-5-chotomis dispositis, pedunculis longis; *calycis* limbo sub-integro; *corollae* tubo longiusculo insuper vix ampliato lobis oblongis brevissime acuminatis subacutis reflexis *antheras* breviter elliptico-oblongas omnino exsertas excedentibus; *bacca* nitente glaberrima pisiformi.

Oban; n. 1054.

A leafy shrub with greenish shoots; the willow-like leaves measure from 9 to 15 cm. in length and 1 cm. to over 2 cm. in width, gradually narrowing into the slender petiole 1-2 cm. long; there are at most 6 distant secondary nerves on either side of the midrib. *Stipules* 2-3 mm. long. *Peduncles* 4-5 cm. long. *Cymes* barely 4 cm. long and the same in width. *Corolla-tube* 3 mm. or longer; lobes 1 mm. *Berry* 5-6 mm. in diameter.

Near *P. recurva* Hiern, but the leaves are thicker, the stipules entire, and the inflorescence more branched in our species.

**Trichostachys Krausiana** Wernham sp. nov. Frutex humillimus ramulis compressis novellis pubescentibus demum glabrescentibus; *foliis* obovato-lanceolatis, basi cuneatis apice vix acuminatis subacutis utrinque glabris vel subtus obsolete in venis minutissime puberulis, petiolo brevi pubescente tenui; *stipulis* suborbicularibus reflexis basi nec connatis obtusis; *floribus* pilosis minutis in spica breviuscula interrupta dispositis, pedunculo pubescente; *calycis* hirsuti lobis triangularibus acutis tubum vix aequantibus.

Oban; n. 1045. Marshy places.

*Leaves* 12-20 cm. long, 6-8 cm. broad; petiole 3-16 mm. long. *Stipules* 6-8 mm.  $\times$  6-8 mm. *Peduncle* 2.5 cm. long; spike about the same length. *Calyx* barely 1 mm. long. *Corolla* 2 mm. long.

Near *T. interrupta* K. Schum., but Dr. Krause, who has been so good as to compare Talbot's plant with the type of Schumann's species at Berlin, informs me that the latter has much longer spikes, flowers not hairy, and differently-shaped stipules.

**Trichostachys Talbotii** Wernham sp. nov. Frutex caulibus simplicibus insuper dense pilosis infra glabrescentibus cortice cinereo; *foliis* plerumque oblanceolatis, basi angustatis vix acuminatis, apice acuto, utrinque hispido-pilosis, petiolo tenui longiusculo piloso; *stipulis* hirsutis infra in vaginam connatis supra bifidis fere setaceis; *floribus* pentameris in capitulo breviter pedunculato sessilibus; *calycis* lobis lanceolatis tubum excedentibus pilosis; *corolla* calycem duplo superante; *stylo* incluso bilobato.

Oban; n. 1041.

*Leaves* 11-18 cm. long, 3.5-5.5 cm. broad; petioles reaching nearly 2 cm. long. *Stipular sheath* 4 mm. long; the setæ about the same length. *Peduncle* 8 mm.; capitulum about 1.5 cm. in diameter. *Calyx* 4 mm. *Corolla-tube* 6.5 mm.; lobes 2 mm. long.

Near *T. aurea* Hiern, but distinguished by the shape and indumentum of the leaves, the long petioles, the stipules, etc.

**Lasianthus Mannii** Wernham sp. nov. Frutex ramulis complanatis dense praecipue in nodis hirsutis; *foliis* petiolatis obovato-lanceolatis vel ellipticis breviter acuminatis acutis basi cuneatis subtus praecipue in nervis et margine supra in vena media sola sparse hirsutis; *stipulis* a basi lata triangularibus ut ramuli indutis; *floribus* in cymis alaribus 3-4-floris sessilibus inter minimos 5-meris; *corollae* tubo extus glabro lobis lanceolatis obtusis irregulariter pilosis; *drupa* 10-lobata depresso-globosa.

Oban; n. 266.

The *leaves* are from 19 to 24 cm. long and 6.5 to 8 cm. broad; the densely hairy petiole is from 3 to 4 cm. long. *Leaf-veins* well-marked on both sides of the leaf, divaricate, meeting the midrib perpendicularly and curving upwards until parallel with the margin; the veins are closely set, 11-14 pairs with nearly the same number of shorter veins intervening. *Stipules* 7 mm. or longer, 5-6 mm. broad at the base. *Flowers* barely 5 mm. long. *Fruit* 4-5 mm. in diameter, with a broad 10-furrowed crown.

Its nearest ally is *L. batangensis* K. Schum., from which it differs in the much larger and differently-shaped leaves and longer petioles, in the leaf-venation, in the arrangement of the flowers, and in the size of the fruit. Our species is apparently identical with the plant collected by Mann on the Gaboon River (n. 917), preserved in the Kew Herbarium, although the latter is not quite so hairy (*vide* Hiern, in Fl. Trop. Afr. iii. 228).

### COMPOSITÆ by Mr. S. Moore.

Contrary to what is usually found in an African collection, the Compositæ form quite an inconspicuous element in the one under notice, and indeed the Composite flora of Upper Guinea is a poor one at best. One sees the same relative poverty when comparison is drawn between Eastern Brazil and Amazonia, India and the Malay Peninsula, and the interior of Australia and its northern coasts. In these cases the country more open in character and drier in climate is the richer in Compositæ, a fact of high antecedent probability, seeing that the fruit is dispersed chiefly by means of the pappus, and in a moist, densely afforested district this dispersal would be restricted not only by liability of the pappus to collapse, but because the thickly growing vegetation would form an obstacle to the achenes in their flight.

*Vernonia frondosa* Oliver & Hiern (n. 49A) is a fine species hitherto unrepresented in the National Herbarium.

**Sphaeranthus** (§ Pauciflori) *Talbotii* S. Moore (in Macleod "Chiefs and Cities of Central Africa," 303). Herba verisimiliter humilis; *ramis* subsparsim foliosis anguste alatis cito



glabris; *foliis* parvis oblongis vel lineari-oblongis apice mucronulatis basi longe decurrentibus integris vel obscure denticulatis primo puberulis dein glabris, capitulorum glomerulis pro rata parvis breviter subsphaeroideis pedunculatis; *bracteis exterioribus* 6 ovatis acutis vel brevissime spinuloso-acuminatis extus scabridule pubescentibus; *bracteis capitula stipantibus* lineari-oblongis apice subito dilatatis truncatis necnon margine ciliolatis ipso mucronulatis; *involucri phyllis* 4-5 lineari-oblongis apice truncatis ipso saepe acutis; *flosculis* fem. 4-5 hermaph. 1, horum corollis paullulum supra basin constrictis ceterum cylindricis.

North Cameroons, Garua to Golombe; n. 1005.

*Branches* slender, white, with narrow herbaceous wings barely 1 mm. wide. *Leaves* up to  $25 \times 4$  mm., those on the branchlets usually reduced to about  $10 \times 2$  mm. *Glomerules* about 10 mm. in diameter, composed of a large number of capitula. *Peduncles* at most 5 mm. long. *Outer bracts* 3-4 mm. long, 2 mm. at the widest part, firm in texture, greyish-green when dry. *Bracts* of the capitula 3.5 mm. long, .75 mm. broad, somewhat cymbiform, provided with short stiff hairs near the apex on the outer side. *Involucral leaves* 3 mm. long, like the bracts scarious. *Corollas* of the hermaphrodite florets pale purple, 1.5 mm. long, the same length as those of the filiform female florets, which stand on exceedingly slender pedicels 1-1.5 mm. in length. *Young achenes* 2 mm. long, papillose. *Achenes* of the female florets 1 mm. long, covered with spreading hairs.

This might be mistaken on a first view for *S. peduncularis* DC. which *inter alia* has 6-leaved involucre. Its position in the genus is near *S. Steetzii* Oliver & Hiern.

*Centaurea Perrottetii* DC. is referred in the Flora of Tropical Africa to *C. Calcitrapa*—wrongly, I think. The single specimen in the collection (n. 1007) agrees fairly well with *C. Perrottetii*, and still better with some Nigerian specimens in the Kew herbarium.

### EBENACEÆ.

*Diospyros Talbotii* Wernham sp. nov. Arbor ramulis subvirgatis foliosis; *foliis* glaberrimis alternis oblongis mediocribus breviter acuminatis acutis, petiolo brevi valido lignoso, venis paucis supra impressis subtus prominentibus; *floribus* femineis in cymis ferrugineo-lanatis compositis cymulis 2-3-floris, pedicellis validis rufo-lanuginosis longiusculis; *calyce* ferrugineo campanulato 5-dentato dentibus crassis triangularibus subacutis; *corolla* carnosa extus glabrescente lobis oblongis obtusis; *staminodis* 6-7-rufo-strigosis; *ovario* densissime pilis ferrugineis patentibus induto; *stigmatibus* 5 lanceolatis crassis extus dense rufo-pilosis intus glabris.

Oban; n. 1560.

*Leaves* to about 13 cm.  $\times$  5.5 cm., subcoriaceous, with stalk barely 6-7 mm. long; lateral nerves 5-6 pairs. *Flower-stalk* (♀) 1-1.5 cm.

long, 3-4 mm. or more thick. *Calyx-tube* about 5 mm.; teeth 5-6 mm. long and about the same width at base. *Corolla-tube* 1 cm. wide at base and 1.2 cm. long; lobes about the same length and 6 mm. broad.

Not far removed from *D. Gilgiana* Gürke, but distinct in the ♀ flowers; and near *D. mamiacensis* Gürke, from which it may be separated by the characters of the leaves, calyx and corolla.

**Jasminum Talbotii** Wernham sp. nov. Frutex ramulis gracilibus fulvo-pubescentibus; *foliis* suboppositis simplicibus oblongis vel ovatis vel suborbicularibus basi plerumque cordatis leniter acuminatis acutis obscure nisi infra super venas irregulariter ferrugineo-tomentosis puberulis, petiolo pubescente brevi; *floribus* pedicellatis 7-8-meris in cymis ramosis plus minus elongatis laxis dispositis; *calycis* lobis setaceis tubum plus quam duplo excedentibus; *corollae* glabrae lobis anguste lanceolatis quam tubus haud multo brevioribus vel tubum subaequantibus.

Oban; n. 336.

*Leaves* variable in shape and size, from about 3 cm. × 2 cm. to 7 × 4 cm.; petiole to 1.3 cm. long. *Floral pedicels* to 2 cm. long. *Calyx-tube* barely exceeding 2 mm. in length; the setaceous lobes 7 mm. long. *Corolla-tube* to 1.9 cm. long; lobes 1.7 cm. long and barely 2 mm. wide at the base.

Near the East African *J. tomentosum* Knobl., differing in the indumentum of the leaves and calyx-lobes and in the shape of the corolla-lobes.

## APOCYNACEÆ.

This family is well represented in the collection, which includes the twelve following novelties.

The specimen of *Carpodinus violacea* K. Schum. (n. 1445) has well-developed tendrils, hitherto unknown (see Fl. Trop. Afr. iv. pt. 1, 80).

**Vahadenia Talbotii** Wernham sp. nov. Frutex subscandens glaberrimus; *foliis* ellipticis nitentibus coriaceis vix acuminatis obtusissimis basi rotundatis vel subcordatis, venis secundariis paucis utrinque valde conspicuis, petiolo brevi; *floribus* breviter pedicellatis inter magnos in cymis compositis longe pedunculatis paucifloris, pedunculo axillari in cirrho plerumque commutato; *calycis* segmentis subliberis latissime ovatis saepe sparse ciliatis involutis, basis glandulis ovatis vel lanceolatis multiseriatis; *corollae* tubo longo lobis latiuscule oblongis obtusis.

Oban; n. 1634.

*Leaves* 10-13 cm. long, 5-6.5 cm. broad; petiole about 5 mm. long; secondary veins 5-7 pairs. *Peduncles* about 10 cm. long. *Pedicels* 3.5 mm. long. *Calyx-segments* about 4 mm. × 4 mm. *Corolla-tube* 2 cm. or more long; lobes 1.5 cm. long, 5 mm. broad.

Distinct in the shape and venation of the leaves and their very

short petioles, in the short ciliate calyx-segments, and in the long tube of the corolla with its broad lobes.

**Landolphia Stapfiana** Wernham sp. nov. Frutex scandens nisi flores glaberrimus; *foliis* oblongis acuminatis apice obtuso basi subacutis subcoriaceis, venis praecipue subtus conspicuis secundariis rectis intra marginem in arcubus anastomosantibus, petiolo valido; *paniculis* subglobosis brevissime pedunculatis multifloris fulvo-tomentosis; *bracteis* parvis rotundatis similiter indutis plus minus persistentibus; *calyce* parvo fulvo-tomentoso lobis brevibus subtriangularibus; *corollae* tubo extus fulvo-pubescente, in medio latissimo sub lobis constricto, lobis oblongis obtusis dorso pubescentibus ore villosa.

Oban; n. 1617.

*Leaves* 13–15 cm. long, 4–5 cm. broad; petioles about 1 cm. long; lateral veins 12–16 pairs. *Inflorescences* about 4·5 cm. wide. *Calyx* barely 3 mm. long. *Corolla-tube* 7 mm. long; lobes about the same.

Near *L. ovariensis* Beauv., but differs in the more compact sessile inflorescences, the shape of the calyx-segments, and the longer corolla-lobes with rounded apices.

**Landolphia** (§ *Ancylobotrys*) *stipulosa* S. Moore sp. nov. Planta scandens *caule* valido subtereti fulvo-hirsuto; *foliis* breviter petiolatis obovato-oblongis apice cuspidato-caudatis ipso longissime ac tenuissime acuminatis basi cordatis tenuiter coriaceis supra costa media puberula exempta fere omnino glabris necnon nitentibus subtus in nervis hispide pubescentibus costis lateralibus utrinque 8–10 patentibus marginem versus arcuatis ut costa media pag. sup. planis leviterve impressis pag. inf. eminentibus reticulo undique prominente; *glandulis axillaribus* in setas longissimas piloso-hispidas transformatis; *panicula* elongata pedunculata hispide pubescente ramulos plures fere suboppositos patentes apice multifloros in axillis setiferos hispide pubescentes emittente; *calyce* ultra medium diviso hispido segmentis oblongo-ovatis obtusis; *corollae* tubo paullo supra basin inflato inde contracto extus puberulo lobis tubo circa æquilongis lineari-lanceolatis; *antheris* lanceolatis basin versus tubo insertis; *ovario* ovoideo glabro; *stilo* columnari stigma semiaequante; *bacca* magnitudine et vultu *Citri Aurantii* L.

Oban; n. 346.

*Leaves* about 15 cm. long, 6·5–7 cm. broad, drying a chestnut-brown, somewhat paler on the lower side, the acumen 2·5 cm. long, filiform near the top; petiole 1 cm. long, hispid-pubescent. Axillary setæ several together, reaching almost 4 cm. in length, but oftener about 2·5 cm., dark when dry. *Panicle* almost 40 cm. long, its lower branches at most 4·5 cm. long, the upper about 2·5 cm. *Bracts* setiform,  $\pm$  3 mm. long. *Pedicels* usually 2·5–3 mm. long. *Flowers* white. *Calyx* 3 mm. long. *Tube of corolla* nearly 1·5 cm. long, at the base 1·5 mm. wide, suddenly enlarging to 2·5 mm., in its upper part 2 mm. wide; lobes not quite 1·5 cm. long. *Ovary*

1·25 mm., *style* 1 mm. long; basal part of stigma 1 mm. long, and lobes the same length. *Berry* almost 1 cm. in diameter.

A remarkable plant, recognised at once by the stipule-like transformed axillary glands. The flowers having become dry in a manner rendering dissection very difficult, recourse has been had to Mrs. Talbot's excellent coloured drawing for details of the corolla. (S. Moore.)

*Landolphia Talbotii* Wernham sp. nov. Frutex scandens ramulis ferrugineo-pubescentibus; *foliis* nisi super venam mediam subtus sparsiuscule pilosis glabris, elliptico-oblongis breviter acuminatis apice obtuso basi acutis vel subrotundatis, venis secundariis densiuscule approximatis, petiolo brevi dense pilosotomentoso; *floribus* parvis sessilibus in cymulis laxiusculis multifloris pseudo-alaribus ramulis rigidulis sparse tomentosis nodoso-sinuatis; *bracteis* calycem amplexantibus ut *sepala* late rotundatis paleaceis ciliolatis glabris; *corollae* tubo brevi minute pubescente infra lobos globoso-dilatato, lobis lanceolatis tubum subaequantibus, nisi in apice subacuto pilosis glabris, marginibus basin versus incurvatis canalem brevem constrictum formantibus; *ovario* strigoso-tomentoso, stylo glabro calycem excedente.

Oban; n. 1038.

*Leaves* 6-8·5 cm. × 2·5-3 cm.; petiole 2-4 mm. long. Secondary veins many, not usually well-marked throughout the leaf. *Cymes* approximately spherical, about 2·5 cm. in diameter. *Flowers* about 6 mm. long. *Calyx* barely 3 mm. long. *Corolla-tube* 3·5 mm.; lobes 3 mm. long.

A very distinct species, with the general habit of a *Clitandra*, at once recognisable by the very small flowers, the chaffy bracts and sepals, and the close-veined leaves.

*Clitandra longituba* Wernham sp. nov. Frutex scandens nisi bracteis sepalisque minute ciliolatis glaberrimus; *foliis* coriaceis plerumque oblongis basi obtusis vel rotundatis apice breviter subito acuminatis obtusissimis breviter petiolatis, venis secundariis dense approximatis rectis nec valde conspicuis; *cymis* multifloris sessilibus alaribus, bracteis parvis ovato-lanceolatis subacutis patentibus; florum pedicellatorum *sepalis* ovatis obtusis; *corollae* tubo gracili lobos lanceolatos acuminatos obtusiusculos saltem duplo excedente.

Oban; n. 1577.

*Leaves* 10-16 cm. long (including acumen about 1·3 cm. long) and 5-6 cm. broad; petiole barely 1 cm. long. *Sepals* 1 mm. long. *Corolla-tube* 1-1·4 cm., the cream-coloured lobes 6-9 mm.

Related, apparently, to *C. cirrhosa* Radlk., but at once distinguishable by the shape of the corolla-lobes.

*Clitandra Talbotii* Wernham sp. nov. Frutex glaber ramulis gracilibus; *foliis* nitentibus petiolatis glaberrimis ellipticis nonnunquam fere obovatis basi acutiusculis vel subrotundatis apice in acumen longiusculum lineari-oblongum obtusum producto, nervis



secundariis pro rata distantibus; *cymis* densiusculis sessilibus alaribus; *floribus* inter parvos, bracteis minutis deltoideis ut *calycis* brevis dentes scariosis; *corollae* tubo pro rata valido supra medium constricto deinde infra lobos lanceolatos obtusos ampliato; *ovario* pubescente stylo filiformi.

Oban; n. 1039.

*Leaves* 5–7 cm. long, with acumen 1–1·5 cm. long, and 3–3·5 cm. wide. *Cymes* rarely much more than 1 cm. broad. *Flowers* 5 mm. long. *Calyx* about 1 mm. long. *Corolla-tube* 3–4 mm.; lobes 1·5 mm. long.

Near *C. parvifolia* Stapf, but differs chiefly in the calyx and pistil.

**Carpodinus oxyanthoides** Wernham sp. nov. Frutex glaber, cirrhis flagelliformibus scandens, ramulis cortice cinereo squamato indutis gracilibus; *foliis* oblongis vel ellipticis cuspidato-acuminatis obtusis basi acutis interdum vix rotundatis glaberrimis, venis infra prominentibus secundariis paucis in arcubus gracilibus a margine distantibus anastomosantibus, petiolo brevi validiusculo; *floribus* alaribus solitariis, alabastris longis tenuissimis; *calycis* segmentis late ovatis dorso carinatis obtusis ciliolatis aliter glaberrimis; *corollae* tubo gracillimo infra lobos glabros obtusos lineares quam tubus multo minores ampliato intus infra stamina sparse piloso; *antheris* lanceolatis; *ovario* styloque incluso villosis.

Oban; 1443.

*Leaves* 7–11 cm. long, 4·5–5·5 cm. broad, with acumen about 1 cm. long, 2·5 mm. broad; 4–5 prominent secondary veins on either side of the midrib as viewed from below; above, these veins are much less well-defined and, like the midrib, depressed; petiole up to 1 cm. long. *Corolla-tube* 2·5 cm. long, and scarcely more than 1·5 mm. broad in the upper dilated part; lobes 1·5 cm. long at most. *Anthers* 1·5 mm. long.

Nearly related to *C. congolensis* Stapf, but differs in the longer and broader leaf-acumen with obtuse apex, and in the longer and more slender flowers with relatively shorter lobes. j

**Carpodinus Talbotii** Wernham sp. nov. Frutex scandens glaberrimus ramulis gracilibus basi tumidis; *foliis* ellipticis basi rotundatis abrupte acuminatis apice obtusissimo breviter petiolatis, venis secundariis horizontalibus demum curvatis ascendentibus infra marginem in arcubus latis anastomosantibus distantibus ut vena media supra parum conspicuis impressis canaliculatis infra prominentibus, reticulo tertio plerumque horizontale nervis paucis; *floribus* glabris subsessilibus alabastris inter longissimos in cymas axillares paucifloras sessiles aggregatis; *calycis* segmentis oblongo-ovatis obtusis margine minutissime ciliato-pubescentibus; *corollae* tubo gracili infra lobos lineares tubum subaequantibus ampliato.

Oban; n. 1055.

*Leaves* 9–11 cm. long (with acumen nearly 1·5 cm. long, 2·5 mm.

broad), 5·5–6·5 cm. broad; petiole 6–15 mm. long, curved, swollen at the base; secondary nerves 8–11 pairs. *Flower-buds* up to 3·5 cm. long or more. *Calyx-segments* 3 mm. long, 1·5 mm. broad. *Corolla-tube* 2 cm.; lobes about the same length and little more than 1 mm. broad.

Related to *C. violacea* K. Schum. and *C. glabra* Pierre, from which it differs in the venation and shape of the leaves and the larger flowers.

**Pleiocarpa Talbotii** Wernham sp. nov. Arbor glabra ramulis nodosis teretiusculis cortice rugoso vel striato; *foliis* majusculis supra olivaceo-infra luteo-viridibus petiolatis anguste elliptico-oblongis basi angustatis brevissime caudato-acuminatis apice obtuso, costa et nervis secundariis subtus prominentibus supra valde impressis; *floribus* in cymulis alaribus paucifloris sessilibus; *sepalis* oblongis obtusis; *corollae* tubo gracili lobis obovatis vel oblongis latiusculis; *ovariorum* carpella quinque 4–5-ovulatis.

Oban; n. 1037.

*Leaves* 15–20 cm. long with acumen 2–2·5 cm. long, and 4·5–6 cm. broad; petiole rarely much more than 1 cm. long; secondary veins distant, about 10 on each side of the midrib. *Seipals* 3 mm. long. *Corolla-tube* 2·2 cm. long; lobes 1·3 cm. long  $\times$  4–5 mm. broad.

The affinity is with *P. mutica* Benth., but there are many and clear points of difference.

**Voacanga magnifolia** Wernham sp. nov. Frutex glaberrimus ramulis valde compressis; *foliis* obovatis vel late oblanceolatis basin versus angustatis apice subito angustato sessilibus vel brevissime petiolatis basi nonnunquam cordatis plerumque tamen acutis, venis secundariis infra prominentibus approximatis; *cymis* ad apicem pedunculi dichotomis a foliis multo excessis; *bracteis* caducis; *floribus* longiuscule pedicellatis; *calyce* inter breviores in lobos oblongos apice rotundatos fere ad medium diviso; *corollae* tubo contorto ad medium et infra lobos constricto in calyce incluso lobis ovalibus apice obtuso tubum longitudine excedentibus.

Oban; n. 1053.

*Adult leaves* 22·5 cm. long, 11·5 cm. broad; petioles rarely as much as 3 mm. long; secondary veins 16–20 pairs. *Peduncles* about 10 cm. long. *Cymes* 6–7 cm. long, 7–8 cm. wide. *Pedicels* to nearly 2·5 cm. long. *Calyx* nearly 8 mm. long; lobes 3·5 mm. broad. *Corolla-tube* 8 mm.; lobes 1·3 cm. long, 7–8 mm. broad.

**Voacanga obanensis** Wernham sp. nov. Frutex glaber ramulis teretibus novellis compressis cortice dilute cinereo indutis; *foliis* glaberrimis majusculis plerumque oblanceolatis acuminatis basi cuneatis petiolatis, venis distantibus; *floribus* pedicellatis majusculis in cymis glabris paucifloris longiuscule pedunculatis folia tamen vix excedentibus dispositis; *bracteis* late ovatis

concavis acutis persistentibus majusculis; *calyce* late campanulato extus glabro lobis ovatis subacutis tubum vix aequantibus; *corollae* tubo contorto extus glabro infra medium et iterum infra lobos valde constricto lobis oblongo-lanceolatis glabris acutiusculis tubum excedentibus.

Oban; n. 2071.

*Leaves* 17–22 cm. long, 5–5.5 cm. broad; petioles 1.7 cm. long; lateral veins 8–10 pairs. *Peduncles* to 17 cm. long, about 4-flowered. *Bracts* about 1 cm. long, and the same width in the broadest part. *Calyx-tube* 7 mm. long and rather more in width; lobes variable, the average about 5 mm.  $\times$  4 mm. *Corolla-tube* 1.3 cm. long, the lower constriction 5 mm. above the base, 4 mm. wide in the median dilated part; lobes 1.6 cm. or more long, and about 2.5 mm. broad.

The nearest affinity seems to be with *V. Zenkeri* Stapf, but the difference is clearly seen in the larger leaves and longer petioles, and in the shape and size of the corolla-lobes and longer tube of the new species.

**Voacanga Talbotii** Wernham sp. nov. Frutex ramulis novellis valde compressis demum teretibus foliosis nodosis; *foliis* plerumque parviusculis oblanceolatis brevissime acuminatis utrinque acutis glabris petiolo tenui compresso; *floribus* pro genere inter minimos in cymis solitariis vel geminis umbellatis glabriusculis pedunculatis dispositis, pedicellis longiusculis; *bracteis* ovatis obtusis concavis tardiuscule deciduis; *calyce* late campanulato extus glaberrimo vix ad medium in lobos fere albidos late triangulares vel oblongos acutiusculos demum recurvatos diviso; *corollae* glabratae tubo brevi lobos excedente circa medium staminifero, limbi demum valde reflexi lobis oblongis subacutis; *antherarum* apicibus fere exsertis.

Oban; n. 1624.

The *leaves* vary a good deal in size; the average for the adult leaves is about 9 cm. long, 3.5 cm. wide, the largest being 15 cm.  $\times$  5.5 cm. Secondary veins 10–12 pairs. *Petiole* 6–8 mm. long. *Inflorescence* 3–4 cm. wide. *Peduncles* 2–3.5 cm. long at first, at length attaining 6–7 cm. *Bracts* 8 mm. long, boat-shaped. *Floral pedicels* 7 mm. long. *Calyx-tube* 3–4 mm. long; lobes about the same length, and as much as 3 mm. wide at the base. *Corolla-tube* cream-coloured, 7 mm. long, the pale primrose lobes as much as 4 mm. long.

Related to *V. diplochlamys* K. Schum., from which it differs in its more complete glabrousness, the longer floral pedicels, the smaller calyx and much smaller corolla, with lobes considerably shorter than the tube.

## ASCLEPIADACEÆ by Mr. S. Moore.

**Batesanthus Talbotii** S. Moore sp. nov. Planta scandens caule distanter folioso hac atque illac verruculoso glabro; *foliis* breviter petiolatis ovatis vel late ovato-oblongis apicem versus attenuatis apice acuminatis basi cordatis membranaceis utrinque scabridis;

*stipulis* interpetiolaribus perspicuis argute dentatis reflexis; *paniculis* axillaribus foliis paullo brevioribus; *bracteis* parvis ovatis mox deciduis; *pedicellis* floribus circiter aequilongis glabris; *calycis* segmentis ovatis obtusissimis puberulis; *corollae* glabrae lobis tubum multo excedentibus obovato-oblongis obtusis; *coronae* lobis emarginatis; *staminum* filamentis coronae lobis aequilongis crassiusculis compressis; *antheris* late oblongis quam filamenta longioribus; *stylo* staminibus brevioribus; *folliculis* ovoideo-oblongis obtusis superne paullo angustatis glabris.

Oban; nn. 2021, 2074.

Twining by means of a rather slender chocolate-coloured, when dry prominently striated, somewhat verruculose stem. *Leaves* drying brown-green, covered with very short scabrous emergences and provided with a vast number of minute glands pellucid in transmitted light, mostly  $10-13 \times 6-8$  cm., though occasionally only  $7-8 \times 4$  cm., the terminal cusp about 1 cm. long; lateral nerves about 7 pairs, inserted upon the midrib nearly at a right angle; petioles  $\pm 2$  cm. long. *Stipules* rigid, chocolate-coloured, about 3 mm. long. *Panicles* 7-11 cm. long and about 3.5 cm. across. *Peduncles* 3 cm. long; pedicels 5-8 mm., and bracts barely 2 mm. *Segments of calyx*  $1.5 \times 1-1.25$  mm. *Corolla* bright purple inside, paler within; tube scarcely 2 mm. long; lobes  $7 \times 3.5$  mm. *Corona* 3 mm. long, its lobes erecto-patent, 75 mm. long. *Free part of filaments* .5 mm. long; *anthers* 1.5 mm. long. *Pollinia* rhombic, including the stalk 1.25 mm. in length. Obtusely conical apex of *style* about .5 mm. long. *Follicles* dark brown, 8-8.5 cm. long, about 2 cm. broad. *Seeds* 5 mm. long, 2 mm. broad, ovate-lanceolate unilaterally keeled, except for the 2.5 cm. long (pale brown) coma glabrous.

Easily distinguished from *B. purpurea* N.E. Br., hitherto the only known species, by the scabrid leaves drying brown, the short inflorescences and the much smaller flowers.

Var. *grandifolia* var. nov. A typo discrepans ob folia majora, sicca fusca, neonon corollas majores.

Oban; n. 63.

*Stems* purplish, warted. *Leaves*  $15 \times 9$  cm. *Corolla-lobes*  $10 \times 4.5-5$  mm.

This looks very different from the type, and should possibly be regarded as a distinct species.

*Secamone conostyla* S. Moore sp. nov. Planta caule volubili subdistanter folioso glabro; foliis petiolatis ovatis apice breviter cuspidulatis ipso acuminatis basi breviter cordatis tenuiter membranaceis utrinsecus glabris; cymis ex axillis omnibus superioribus oriundis simplicibus dichotomeve paniculatis patentibus paucifloris; bracteis minimis lanceolatis; pedicellis ut pedunculorum filiformibus glabris; floribus quam pedicelli manifeste brevioribus; calycis segmentis ovato-lanceolatis acutis; corollae rotato-campanulatae ultra medium divisae lobis ovatis obtusissimis margine crispulis; coronae phyllis quam columna staminea



brevioribus subulatis patentibus carnosulis fuscis; *stylo* columnam stamineam bene excedente anguste conico integro.

Oban; n. 1030.

A slender-stemmed twining plant. *Leaves* when full grown 4-5 × 2.5-3 cm., exceedingly thin in texture, drying green and markedly paler beneath, provided with a large number of minute immersed pellucid glands; petioles 1-2 cm. long, sometimes of unequal length in the pairs, scabridulous. *Cymes* short or elongated, sometimes 1 cm., more often 5-6 cm. long; in the latter case 7 cm. more or less in diameter. *Common peduncle* very short or absent; partial peduncles at most 4 cm. long. *Pedicels* usually 5-8 mm. long. *Bracts* about 1 mm. in length. *Flowers* green. *Segments of calyx* 1.25 mm. long. *Expanded corolla* 6 mm. in diameter; tube 1.25 mm. long; lobes 2.5 × 2.5 mm. *Staminal column*, including the appendages to the anthers, about 1 mm. long. *Coronal leaves* about .4 mm. long, blackish. *Style* exerted beyond the staminal column to a length of nearly 1 mm.

Differs from *S. leonense* N. E. Br., chiefly in the cordate (not cuneate) leaves, the glabrous cymes and the conical entire style.

*Ceropegia Talbotii* S. Moore sp. nov. Herba caule volubili superne frequenter folioso glabro; foliis sat longe petiolatis ovatis longiuscule caudato-acuminatis basi cordatis membranaceis pag. sup. fere omnino glabris pag. inf. in nervis sparsissime puberulis glabrisve; floribus majusculis solitariis vel in cymis umbellatis perpaucifloris dispositis pedunculis glabris calycem excedentibus insidentibus; calycis segmentis elongatis linearibus sursum longe attenuatis glabris; corollae extus et intus fere glabrae tubo basi inflato inde subito contracto paullo infra medium indeque usque ad fauces optime dilatatas amplificato lobis tubo multo brevioribus apice connatis oblongis obtusis fere glabris; coronae phyllis exterioribus in cupulam brevem connatis late ovatis apice bilobis lobis caudato-acuminatis intus pilis longis obsitis margine sparsissime ciliatis phyllis interioribus exteriora circa duplo excedentibus lineari-oblongis apice dilatatis ipso obtusis.

Oban; n. 116.

*Leaves* mostly 6 cm. long, 3 cm. broad, the narrowed portion at most 2 cm. long; petioles somewhat twisted at the base, about 3 cm. long. *Peduncles* also twisted at the base, usually 1.5-3 cm. long. *Segments of the calyx* becoming patent, 1-2 cm. long. *Corolla* a dirty white with purple blotching, the tube almost 4 cm. long, 4-5 mm. wide at the base, then contracted to 2 mm. and expanding at the mouth to 9-12 mm.; lobes 1.5 cm. long, 5 mm. broad. *Cupule of the outer corona* .4 mm. deep, its leaves about 1.2 × 1 mm.; leaves of the inner corona 2 × .2 mm.

To be inserted in the genus next *C. Johnsoni* N. E. Br., which has smaller, less deeply cordate leaves, a much shorter calyx and a shorter corolla less swollen both at base and throat.

Judging from material to hand, the corolla varies somewhat in

shape; this may be due to drying; Mrs. Talbot's excellent coloured drawing gives but slight evidence of such variation.

**Ceropegia anceps** S. Moore sp. nov. Herba *caule* volubili ancipiti folioso glabro; *foliis* oblanceolatis vel oblanceolato-obovatis breviter caudato-acuminatis apice acutis basi in petiolum gracilem quam sese breviorē cuneatim angustatis membranaceis vel potius levissime crassiusculis utrobique glabris vel summum in nervis microscopice puberulis; *cymis* umbellatis pedunculatis paucis necnon mediocri-floris bracteis parvis subulatis stipatis; *calycis* segmentis subulatis puberulis; *corollae* extus fere glabrae tubo basi inflato inde usque ad fauces iterum dilatatas tenui lobis tubo manifeste brevioribus oblongis replicatis apice cohaerentibus; *coronae* phyllis exterioribus ima basi connatis subquadratis sursum in cornua duo filiformia pilis sparsis longis donata exeuntibus phyllis interioribus ut exteriora columnam stamineam facile superantibus erectis lineari-oblongis obtusis.

Oban; n. 174.

*Stem* at most 2 mm. wide, marked with sparse longitudinal striation. *Leaves* 4–5 cm. long in the blade and 15–20 mm. broad, when dry darkish above, paler beneath, the acuminate end 7–9 mm. long; petioles 10–13 mm. long, glabrous. *Cymes* usually 4–6-flowered, but sometimes less, their *peduncles* 6–15 mm. long. *Bracts* about 1.5 mm. long. *Flowers* creamy-white, with dark brown blotches. *Calyx* barely 3 mm. long. *Tube of corolla* 19–22 mm. long, at the very bottom 1.5 mm. wide, the inflated base 4–5 mm. wide, the narrow part 1.5 mm. and the throat suddenly expanded to 6 mm.; corolla lobes 7 mm. long. Leaves of the *outer corona* 2 mm. long, the two horns or lobes proceeding from the right and left corner respectively 1 mm. long; leaves of *inner corona* 2.25 mm. long. *Staminal column* 2 mm. long.

This also is near *C. Johnsoni* N. E. Br., but its stem, leaves and corona are different.

## LOGANIACEÆ by Mr. S. Moore & Mr. H. F. Wernham.

**Mostuea angustifolia** Wernham sp. nov. Frutex ramulis gracilibus virgatis; *foliis* glabris subsessilibus lanceolatis nonnunquam obliquis utrinque acuminatis apice subobtusis in ramulis lateralibus brevibus florescentibus confertis; *floribus* parvulis in cymis subumbellatis glabris paucifloris tenuiter pedunculatis dispositis, bracteis et bracteolis minutis vel obsoletis pedicellis longiusculis glabris; *calyce* brevissimo dentibus lanceolatis tubum excedentibus; *corollae* tubo anguste infundibulari lobis rotundatis; *capsulae* lobis divaricatis oblongis rotundatis.

Oban; n. 1035.

The *leaves* are 4–5.5 cm. long by 1.2–1.5 cm. broad. The *peduncles* of the mature inflorescences may be as much as 1.8 cm. long. *Floral pedicels* 1–2 mm. or more, increasing to about 1 cm. in the

fruiting stage. *Calyx* 1 mm. long; *corolla-tube* 8 mm., lobes 1·5 mm. long. *Fruit* 12 mm. broad, septum 5 mm. long.

Differs from most species of the genus in its narrow lanceolate leaves. Most nearly related, probably, to *M. Dinklagei* Gilg. from which it differs in its glabrous character and in its very small calyx.

***Anthocleista microphylla* Wernham sp. nov.** Arbor glabra ramulis inermibus cortice squamoso dilute brunneo transversim rupto indutis; *foliis* subcoriaceis ellipticis pro genere parvis basi in petiolum brevissimum subito angustatis brevissime acuminatis apice subacuto; *floribus* in cymis umbellatis compositis laxiusculis dispositis; *calycis* lobis suborbicularibus aequalibus: *corollae* tubo calycem duplo excedente nec valde insuper ampliato, lobis tubi partem exsertam subaequantibus latiuscule oblongis apice obtuso reflexo; *stylo* antheras excedente; *bracteolis* deltoideis coriaceis carinatis, *bracteis* similibus.

Oban; n. 304.

*Leaves* quite small for the genus, about 7 cm. long and 3·5 cm. broad. The very short petioles have a very broad, almost sheathing base, and an interpetiolar line is clearly observable at the node. There are 5-6 secondary veins on either side of the midrib, but these are usually only faintly discernible on the lower side of the leaf. The *inflorescence* just exceeds the leaves. The *calyx* is barely 6 mm. long; the *corolla-tube* 12 to 14 mm. long, and the lobes about 1 cm. long and 4 mm. broad. *Anthers* 6-7 mm. long.

The nearest affinity among the species hitherto described is *A. pulcherrima* Gilg, but the present species is at once distinguished by the shape, size and venation of the leaves, and by the much smaller flowers.

***Anthocleista obanensis* Wernham sp. nov.** Arbor glabra ramulis inermibus; *foliis* coriaceis parviuseculis oblanceolatis basi cuneatis in petiolum brevem angustatis petiolo incrassato et ampliato caulem amplexente apice brevissime acuminato subacuto venis secundariis valde utrinque obscuris vel evanidis; *floribus* in cymis paucifloris umbellatis compositis, bracteis bracteolisque coriaceis ovato-lanceolatis obtusis; *calycis* lobis inter maximos oblongis apice rotundato interioribus latioribus; *corollae* tubo supra calycem ampliato breviter campanulato lobis elliptico-oblongis latiusculis apice rotundato.

Oban, Obarekkai; n. 305.

*Leaves* small for the genus, 12-15 cm. long, 3-6 cm. broad, petiole 5-10 mm. long. A pair of small leaves, 3·5 cm. long and 1·3 cm. broad, usually subtends the inflorescence, which exceeds the foliage-leaves. *Calyx* about 1·5 cm. long, outer lobes 6 mm., inner 8 mm., broad, strongly concave. *Corolla-tube* 2 cm. long altogether, of which the campanulate part exserted beyond the calyx measures 5 mm. *Corolla-lobes* 1·1 cm. long and 5-6 mm. broad.

This species approaches *A. laxiflora* Baker, from which it differs in the shape and size of the leaves and calyx-lobes.

**Anthocleista Talbotii** Wernham sp. nov. Arbor glaberrima ramulis spinis geminis validis armatis; *foliis* in apice ramulorum confertis oblanceolatis sessilibus basi auriculatis apice subacuto apicem versus nec acuminatis venis praecipue subtus conspicuis; *floribus* umbellatis in cymis compositis; *calycis* lobis exterioribus suborbicularibus; *corollae* tubo infra cylindraneo supra calycem ampliato lobis oblongo-lanceolatis vix acutis 16–18; *bracteis* bracteolisque induratis brevissimis truncatis latissimis; *bacca* ellipsoidea majuscula.

Oban; nn. 177, 1448, 2027.

*Leaves* very large, the uppermost attaining 35 cm. in length and 13 cm. in breadth, considerably exceeding the inflorescences; the lower, to judge from n. 1448, may be 150–200 cm. long. *Calyx* nearly 15 mm. long. *Corolla* over 2.5 cm. long; lobes 13 mm. long and 6–7 mm. broad. *Berry* 3.5 cm. long, and about 3 cm. broad.

The affinities of this species are with *A. lanceolata* Gilg, but it is readily distinguished by the character of the corolla and the shape of the leaves.

**Strychnos** (§ Intermediae) **pansa** S. Moore sp. nov. Frutex *ramulis* subteretibus patentissimis pubescentibus cirriferis cirris simplicibus antrorsum curvatis necnon incrassatis; *foliis* pro rata mediocribus vel parvis breviter petiolatis ovatis vel ovato-oblongis apice obtusissimis sed saepius cuspidato-attenuatis ipso acutis vel obtusis basi rotundatis vel truncatis nonnunquam leviter cordatis tenuiter coriaceis utrinque costa centrali puberula exempta glabris fere a basi 3-nerviis adjecta costa marginali parum perspicua ac revera quam reticulum haud magis spectabili; *cymis* axillaribus brevibus paucifloris glabris; *floribus* parvulis tetrameris pedicellis quam sese plerumque longioribus insidentibus; *calyce* parvo segmentis deltoideis obtusis vel obtusiusculis margine ciliatis; *corollae* parvulae campanulatae tubo calycem subaequante comparate lato intus glabro lobis ovatis obtuse acutis extus puberulis intus prope medium pilorum linea onustis; *filamentis* antheris aequilongis; *ovario* globoso ut stylus inclusus glabro.

Oban; n. 1661.

*A climbing shrub* with slender leafy branches giving off spreading branchlets at a right angle or nearly so; tendrils 3 to nearly 4 cm. long, pubescent. *Leaves* various in size and shape, now  $9 \times 3.5$  cm., often  $6.5-8 \times 2.7-3$  cm., sometimes reduced to  $2.5-4 \times 2-2.5$  cm. or even less, drying bright green, paler below; pair of lateral nerves ascending, arcuate-anfractuose in the upper half or rather more of their course, running for the most part at 3–5 mm. distance from the margin; ordinary lateral nerves about 6 pairs, inserted on the midrib almost at a right angle, together with interpolated secondary nerves and the rather lax reticulum prominent on both sides of the leaf; petioles stout, 2–3 mm. long, pubescent. *Cymes* about 5 mm. long. *Bracts* cymbiform, 1–2 mm. long; pedicels  $\pm 2$  mm. long. *Flowers*



bright orange. *Calyx* not quite 1 mm. in length. *Tube of corolla* 1 mm. long, scarcely 2 mm. wide at the throat; lobes 1·25 mm. long, its hairs villous, white. *Filaments* and *anthers* each ·75 mm. long. *Ovary* ·75 mm. in diameter. *Style* ·3 mm. long.

Closely allied to *S. malacoclados* C. H. Wright, but somewhat different in foliage and markedly so in the lax glabrous cymes and larger calyces.

**Strychnos** (§ Intermediae) **Talbotiae** S. Moore sp. nov. Frutex erectus *ramulis* ecirrosis teretibus crebro foliosis primo fusco-purpureis dein cinereis glabris; *foliis* petiolatis ovatis prope apicem subito cuspidato-attenuatis apice obtusis basi rotundatis vel subito subcuneatis utrobique nitentibus coriaceis glabris 5-nerviis jugo proximali basali a jugo distali aliquantum remoto ambobus usque ad apicem margini parallelis parum anfractuosis; *cymis* axillaribus sessilibus brevibus satis densifloris; *bracteis* parvulis ovatis obtusis dorso puberulis margine ciliolatis; *floribus* pentameris; *calycis* segmentis late ovatis obtusis puberulis margine ciliolatis; *corollae* campanulatae extus subtiliter sericeo-pubescentis lobis quam tubus intus ad fauces pilorum annulo instructus paullo longioribus triangularibus obtusiusculis; *filamentis* quam antherae brevioribus villosulis; *ovario* subgloboso glabro stylo incluso crasso piloso aequilongo; *bacca* subglobosa magnitudine cerasum grande paullo excedente exocarpio dense coriaceo leviter nitente obducta.

Oban; n. 2077.

*Leaves* 7–12 × 4–8 cm., drying grey or greyish-brown, somewhat paler on the lower side; nerves slightly impressed on the upper side, prominent on the lower, midrib more prominent than the lateral pairs, basal pair of the latter usually somewhat the less prominent; nervelets numerous, inserted on the midrib at varying angles, dividing to form an open reticulum easily visible on the lower side, with some difficulty on the upper; petioles stout, channelled above, 5–7 mm. long. *Cymes* 2–2·5 × 2·5–3 cm.; branches several, minutely hairy, the ultimate ones ending in three flowers of which the central is sessile and the lateral supported by pedicels about 1 mm. in length. *Bracts* as long as and closely apposed to the pedicels. *Segments of calyx* 1 mm. long. *Corolla* 3·25 mm. long, of which 1·25 belongs to the tube. *Filaments* flattened and fleshy, ·75 mm. long; *anthers* broadly oblong-ovate, very obtuse, 1 mm. long. *Ovary* and *style* each 1 mm. long. *Berry* 20–25 × 18–20 mm., with a brown exocarp in the dry state. Seeds not seen.

*S. Staudtii* Gilg, to which this seems nearest, has narrower leaves with the basal pair of lateral nerves not nearly so prominent, larger flowers with a double ring of hairs in the tube of the corolla, exserted style, etc.

**Strychnos** (§ Intermediae) **memecyloides** S. Moore sp. nov. Frutex erectus *ramis* copiose foliosis ramulos patentes emittentibus scabriuscule pubescentibus tandem glabrescentibus; *foliis* breviter

petiolatis oblongo-ovatis apice cuspidulatis ipso obtusis basi obtusissimis rotundatisve tenuiter coriaceis nervis puberulis pubescentibusve pag. inf. exemptis glabris utrinsecus nitidis 5-nerviis jugo proximali submarginali satis obscure apicem versus evanescente jugo distali paullulum supra basin exeunte optime aspectabili dimidio superiori arcuato-anfractuoso ut costa centralis et jugum proximale et reticulum sublaxum supra plano vel brevissime elevato subtus prominente; *cymis* axillaribus nisi terminalibus abbreviatis densifloris; *bracteis* obovatis obtusis dorso puberulis margine ciliolatis; *floribus* pentameris; *calycis* segmentis suborbicularibus puberulis ciliolatis; *corollae* puberulae paullulum ultra medium divisae tubo calyci subaequilongo intus in faucibus pilorum annulo instructo lobis triangularibus obtusiusculis; *filamentis* antheris brevioribus villosulis; *ovario* late ovoideo ut stylus crassiusculus se ipsum paullulum excedens piloso.

Oban; n. 2078.

*Leaves* usually 12-17 cm. long, 5-6.5 cm. broad, olive-green when dry, brighter on the underside; petioles stout, shallowly channelled on the upper side, pubescent, 5 mm. long. *Cymes* 1-2 × 1-2.5 cm., the branches short and pubescent. *Bracts* mostly 2-4 mm. long. *Pedicels* ± 1.5 mm. long, pubescent. *Calyx-segments* scarcely 2 mm. long. *Tube of corolla* broadening upwards, 1.75 mm. long, 1.25 mm. wide at the base, nearly 2 mm. at the throat; lobes 2.25 mm. long. *Filaments* .5 mm. long; *anthers* oblong-ovoid, 1 mm. long. *Ovary* 1.25 mm. in length, narrowing upwards into the fleshy style, which is 1.75 mm. in length and like it pilose.

Allied to the last from which it differs in foliage, calyx, &c.

**Var. effusior.** *Folia* oblongo-lanceolata, pleraque 14-17 × 4-6 cm. *Cymae* satis laxae, 2-2.5 × 2.5-3 cm. *Corollae* lobi ovato-oblongi.

Oban; n. 2079.

**Strychnos** (§ Intermediae) **pusilliflora** S. Moore sp. nov. Frutex scandens espinosus? cirrosus? *ramulis* angulis rectis vel fere rectis abeuntibus teretibus glabris cortice cinereo vel sordide albo circumdati vetustioribus lenticellis eminentibus profuse donatis; *foliis* majusculis petiolatis oblongo-ovatis cuspidato-acuminatis apice obtusis basi cuneatis tenuiter coriaceis glabris trinerviis (addito jugo basali intramarginali mediocriter perspicuo) jugi lateralis nervis .5-1 cm. a basi costae centrali conjunctis folii margini stricte parallelis ut costa centralis pag. inf. optime eminentibus ordinis inf. nervis numerosis jugo laterali angulis rectis insertis; *cymis* axillaribus tenuibus crebro ramosis plurinerviis laxi-floris glabris; *bracteis* parvis lanceolatis pedicellis brevioribus; *calycis* parvuli glabri segmentis ovato-deltoides obtusissimis; *corollae* parvae tetramerae triente inf. gamopetalae

tubo calyceem excedente a basi amplificato intus glabro lobis oblongis obtusis intus praesertim dimidio proximali pubescentibus; *staminibus* faucibus affixis breviter exsertis; *ovario* subgloboso quam stylus longiore.

Oban; n. 1256.

A copiously branching scandent shrub. *Leaves*  $\pm 10 \times 5$  cm., the largest  $15 \times 6.5$  cm., grey-green in the dry state, palely shining on both surfaces; midrib somewhat prominent on the upper side, excavated down the middle; lateral nerves and the reticulum prominent on both sides; petioles  $\pm 1$  cm. in length, concave on the upper side. *Cymes* very slender, 2-4.5 cm. long and about the same in diameter. *Bracts*  $\pm 1$  mm. long; *pedicels* mostly 1-3 mm. *Calyx* .5 m. long, its lobes .4 mm. *Corolla* 2.5 mm. long, the tube .75 mm., the lobes 1.75 mm. *Filaments* .4 mm. long; *anthers* as long, broadly ovate. *Ovary* .75 mm; *style* .5 mm. long. *Fruit* unknown.

The very slender open cymes, the small flowers and relatively large leaves with the two lateral nerves running parallel to the margin without any interrupting curves, are the chief characteristics of this species.

#### SCYPHOSTRYCHNOS S. Moore, gen. nov.

Calyx 5-partitus; segmenta lata, imbricata. Corolla hypocraterimorpha; fauces squamis in tubum exsertum alte connatis coronam referentibus onustae; lobi 5, aestivatione valvati. Stamina 5, ad basin coronae inserta, corollae lobis alternantia; filamenta brevissima; antherae dorsifixae, 2-loculares. Discus brevissimus, cupuliformis, ore denticulato. Ovarium 2-loculare; stylus filiformis; stigma capitatum; ovula quove in loculo  $\infty$ , pluriseriata.

Frutex alte scandens. Folia opposita, paullo supra basin trinervia. Flores in cymas axillares pedunculatas trichotome paniculatas plurifloras nonnunquam in cirros validos uncinatos mutatas digesti. Bracteae parvae.

*Scyphostrychnos Talbotii* S. Moore sp. unica. Planta glabra ramis validis teretibus cortice cinereo obductis; *foliis* breviter petiolatis ovatis vel ovato-oblongis apice cuspidulatis ipso obtusis basi truncato-rotundatis coriaceis supra nitidis prominenterque reticulato-nervosis subtus nervis paucis lateralibus eminentibus exemptis subobscure reticulatis; *cymis* foliis multo brevioribus pedunculis validis nitentibus insidentibus; *bracteis* cymbiformibus calyci arcte applicatis; *calycis* segmentis rotundato-deltaideis obtusis vel obtusissimis fulvo-ciliolatis; *corollae* tubo calyceem duplo superante lobis ovato-oblongis obtusis tubo subaequilongis; *antheris* oblongis corona fere omnino inclusis; ovario ovoideo in stylum se ipsum excedentem angustato. (Pl. 10.)

Oban; n. 1664.

*Leaves* very coriaceous, mostly 14-20 cm. long and 8-11.5 cm. broad, but sometimes markedly smaller, e.g.,  $7-9 \times 5.5-7$  cm., brown

when dry, somewhat paler and not at all shining on the underside; lateral pair of nerves arising from the midrib at from less than 1 cm. to nearly 2 cm. from the base of the leaf, each nerve traversing about one-half of the leaf in an arch of no great curvature which never approaches the leaf-margin, and at length anastomoses with the lowest of the three other lateral nerves; the nerves are flat above and prominent below; petioles about 12 mm. long, channelled above, stout. *Tendril-bearing branch* 9 cm. long, with two pairs of tendrils 6 cm. apart; tendrils woody, 4.5-6 cm. long, much curved and swollen in the upper part. *Cymes*  $\pm$  6 cm. long, 3-4 cm. in diameter. *Peduncles* 2 cm. long; central flower of each cymule usually sessile or subsessile, lateral flowers on pedicels up to 8 mm. in length. *Bracts* 1.5-2 mm. long. *Calyx* 2.5 mm. long. *Corolla* palest yellow, tube quite glabrous inside, 5 mm. long, 3-3.5 mm. broad; lobes 6 mm. long, like the tube somewhat fleshy. "*Corona*" 2.5 mm. long, its lobes about .5 mm. long. *Filaments* 1 mm., *anthers* 2 mm. long. *Ovary* 3 mm. long, *style* 4 mm.

The genus has all the characters of *Strychnos*, with the addition of the so-called "corona."

### CONVOLVULACEÆ by Dr. A. B. Rendle.

The collection includes thirty-four species, sixteen of which belong to the genus *Ipomoea*. The majority are more or less widely spread in Tropical Africa or tropical countries generally. Eight are restricted to West Tropical Africa, including *Lepistemon parviflorus* Pilger and *Ipomoea Hierniana* Rendle, previously known only from the Cameroons, *I. velutipes* Welw. from S. Cameroons and Angola, and *I. micrantha* Hallier f. from the Cameroons and Ashanti.

*Prevostea nigerica* Rendle sp. nov. *Planta scandens caule tenui; foliis ...; floribus* apice et sub apice pedunculorum axillarium aggregatis; *bracteis* minutis lineari-oblongis vel oblanceolatis dorso ferrugine hirsutulis; *sepalis* 2 exterioribus ovato-cordatis obtusis veluti pedicello tenui dorso praecepue superne ferrugine hirsutulis, sepalis interioribus parvis late ovatis acutis; *corolla* urceolata alba parva segmentis brevibus rotundatis demum recurvis sub ore ferrugine pubescente; *antheris* ante anthesin reversis; *stylo* paene ad basin diviso, brachiis inaequalibus stigmatibus late ellipsoideis; *fructu* indehiscente ovoideo styli basi persistente coronato monospermo, sepalis accrescentibus rotunde ovatis vel suborbicularibus cordatis.

Oban; n. 1484.

Said to be leafless in the flowering and fruiting stage. *Peduncles* apparently short, stiff, bearing a large number of crowded flowers; pedicels 6-7 mm. long. *Outer sepals* 5-8 mm. long, the outermost in the fruiting stage to 4.5 cm. long and as broad, the inner about 2.5 cm. *Corolla* 1.4 cm. long by 8 mm. in diameter; segments 1 mm. long. *Fruit* (unripe) about 1 cm. long without the beak.



A distinct species characterised by its small urceolate flowers densely crowded towards the top of the short axillary peduncles.

**Merremia pes-draconis** Hallier f. var. **nigerica** var. nov.  
A typo differt *foliis* magis evolutis, *calyce* breviora glabro et *corolla* minore.

River Benue; n. 892.

*Leaf-stalks* 1.5 to 3 cm. long (3 mm. in the species); blades to 9.5 cm. long (6 cm. in the species); deeply palmately-pinnately 7-lobed (5-lobed in the species). *Calyx* glabrous, 2 cm. long (the outer sepals are hairy and 12 mm. long in the species). *Corolla* 2 cm. long (2.7 mm. in the species).

*M. pes-draconis* is represented only by a specimen "en état plutôt mauvais" in the Brussels Herbarium, collected by Descamps in the Congo Free State (Kasai district). Dr. De Wildeman has kindly compared a Nigerian specimen with the type; he says, "It is certainly near *M. pes-draconis*, but is distinguished by longer-stalked leaves, with a more developed limb, more numerous lobes and a more hairy lower surface, by a more glabrous and shorter calyx and a relatively reduced corolla." The Nigerian plant may represent a distinct but closely allied species, but in view of the unsatisfactory character of the material of *M. pes-draconis* I prefer to regard the differences at present as merely of varietal value.

### PEDALINEÆ.

**Sesamum Talbotii** Wernham sp. nov. Herba suffrutescens erecta pubescens *caule* tereti striato inferne glabrescente; *foliis* simplicibus inferioribus ellipticis pro genere latis basi angustatis apice acuminato vel rotundato margine subintegro utrinque sparsiuscule pilosis, petiolis pro rata longis, superioribus angustioribus lineari-oblongis distincte tamen petiolatis apice acuto utrinque pilosis margine minute et irregulariter serratis; *floribus* majusculis; *calycis* lobis lineari-lanceolatis; *capsula* majuscula rostrata late oblonga pilosa.

Oban; n. 1036.

*Lower leaves* 6-9 cm. long  $\times$  2-2.4 cm. broad; petiole 2-2.5 cm. long; *upper leaves* about 4 cm. long  $\times$  8 mm. broad. *Calyx* 6-7 mm. long. *Corolla-tube* 3 cm. long, largest lobe 1 cm. long and 1.3 cm. broad. *Fruit* 3-3.5 cm. long, and 8-9 mm. broad. *Seeds* 2.8 mm. long, 2.1 mm. in broadest part, with radiating wrinkles.

Notable for the broad leaves and large capsules.

### ACANTHACEÆ by Mr. S. Moore.

A few genera of Acanthaceæ, such as *Dischistocalyx*, *Whitfieldia*, *Physacanthus*, *Lankesteria* and *Thomandersia*, are exclusively or largely West African. Mr. and Mrs. Talbot's discovery of a new genus (*Talbotia*) is therefore no matter for surprise.

**Crossandrella Dusenii** S. Moore comb. nov. Syn. *Pseudo-blepharis Dusenii* Lindau, *Acanthus Dusenii* Clarke, *Crossandrella laxispicata* Clarke. The Uganda plant which served as the type of Clarke's *Crossandrella laxispicata* is identical in every respect with the plant from the Cameroons.

**Adhatoda Buchholzii** S. Moore comb. nov. (*Duvernoia Buchholzii* Lindau). Some of the specimens agree with Lindau's description, which, the species being unrepresented in this country, is all one has to go upon. Clarke's (Flora Trop. Afr. v. 223) reference of *D. Buchholzii* to *Adhatoda maculata* Clarke (*Justicia maculata* T. And.) is obviously a mistake, for, to take only one point, *A. maculata* has, as Clarke says correctly, lanceolate bracts, while Lindau describes the bracts of his plant as ovate. Moreover in general appearance the two are quite unlike. The matter has become further confused by Zenker's n. 2229, a plant with large ovate *bracteoles*, having been distributed as "*Duvernoia Buchholzii* Lindau," whereas Lindau says his *D. Buchholzii* has the bracteoles minute (winzig). Furthermore, as if this were not enough, Zenker n. 2755, a plant with large suborbicular bracts, has been sent out as "*Duvernoia maculata* (T. And.) Lindau."

Specimens named as above show much variety in their foliage and bracts. Some agree perfectly in these respects with Lindau's description; others have short and broad leaves rotundate at base and short stalks, and from these leaves there may be a passage into sessile sometimes amplexicaul leaves 2.5-5 cm. in length, the uppermost forming a transition to the oldest bracts. The largest of these latter organs may be as much as 2 cm. in breadth, thus greatly exceeding the dimension (7 mm.) given by Lindau. But as these variations may occur on one and the same individual, there can be no question of specific divergence here. The plant is thrown into rivers with the object of poisoning fish.

**Afromendoneia iodioides** S. Moore sp. nov. Frutex scandens ramis distanter foliosis pilis fulvis subsparsim hispidis; *foliis* amplis petiolatis late ovatis apice subito cuspidulato-attenuatis ipso obtusis coriaceis supra glabris subtus praesertim in nervis subsparsim fulvo-hispidis; *floribus* in axillis paucis pedicellis bracteolas circiter aequantibus insidentibus; *bracteolis* cymbiformibus obtusis triente inferiori connatis ut pedicelli dense fulvo-hirsutis; *calycis* brevissimi glabri ore undulato; *corollae* tubo ex bracteolis vix eminentibus superne gradatim amplificato glabro lobis late obovatis obtusissimis tubo brevioribus; *staminum* superiorum antheris obtusis inferiorum apice appendice brevi curvato onustis; *disco* maxime prominente crassissimo; *ovario* subsphaeroideo glabro 1-loculo; *stylo* piloso; *ovulis* binis.

Oban; n. 388.

*Leaves* 9-12 cm. long, 6.5-9 cm. broad, when dry greyish and

wrinkled upon the upper side; lateral ribs on each side 3, the basal, coursing close to the margin, sometimes obscure, prominent on the lower side, openly arching, the reticulum well seen especially on the underside. *Pedicels*  $\pm$  1.5 cm. long. *Bracteoles* 15 mm. long, puberulous within. *Calyx* 1 mm. long, or rather more. *Tube of corolla* 16 mm. long, 3 mm. wide below and 8 mm. at the throat; lobes about 8  $\times$  8 mm. *Smaller anthers* 5 mm. long, larger 7 mm. *Disc* 2  $\times$  3 mm. *Style* about 1.5 mm. long.

Allied to *A. phytocrenoides* Gilg, but with quite different bracteoles among other features; these latter organs are more like those of *A. madagascariensis* S. Moore.

**Brillantaisia Talbotii** S. Moore sp. nov. Herba caule ascendente cito glabro; foliis lanceolatis acutis breviterve acuminatis basi in petiolum longum haud alatum extenuatis (summis etiam petiolatis etsi valde imminutis) margine undulatis papyraceis glabris; panicula folia paullo excedente laxa pauciflora glanduloso-pubescente; pedicellis calyce brevioribus ambobus glanduloso-pubescentibus; calycis segmentis anguste linearibus obtusis segmento postico quam cetera paullo longiori; corollae pro rata parvae tubo calycem manifeste excedente extus glabro limbum circiter semiaequante; staminibus subexsertis; ovario circa 12-ovulato; stylo exserto glabro; capsula parva calycem vix duplo superante attenuata glanduloso-pubescente.

Oban; n. 2000.

*Stem* soon turning woody, somewhat tumid at the nodes, 2-3 mm. in diameter. *Limb of leaf* about 8  $\times$  2.5 cm., paler on the underside, on both sides copiously provided with cystoliths; petioles 1.5-3 cm. long; uppermost leaves 15  $\times$  5 mm. on petioles of about 2 mm. *Panicle* 12  $\times$  10 cm. *Bracteoles* narrowly linear, 3 mm. or more long. *Segments of calyx* 5-8 mm. long, 15-25 mm. broad, hinder segment 8-10 mm. long. *Corolla* 2 cm. long, blue; the tube 7 mm. long, 2.5 mm. below and 5 mm. at the throat; upper lip 13 mm. long, its lobes 4  $\times$  2 mm.; lower lip 11 mm. long, with lobes 2  $\times$  1.2 mm. *Filaments* 13 mm. long, pubescent at one side of the base, otherwise glabrous. *Anthers* 4.5 mm. long. *Staminodes* pilose, 8 mm. long, their rudimentary anther rather more than 1 mm. in length. *Ovary* 3 mm., *style* 19 mm. long, the latter pubescent below. *Capsule* ending in a very short and blunt point, 16-18 mm. long, 1-2 mm. broad.

The corolla of this plant is that of *B. Lamium* Benth., but its calyx has longer, obtuse, unequal segments, and the leaves are very dissimilar.

**Physacanthus Talbotii** S. Moore sp. nov. Herba infraspithamea caule simplici inferne ad nodos radicante pubescente; foliis parvis ovatis vel suborbicularibus utrinque obtusissimis margine undulatis vel undulato-denticulatis membranaceis supra strigose pilosulis subtus in nervis minute pubescentibus petiolis limbo brevioribus pubescentibus; floribus solitariis breviter pedunculatis; calyce oblongo herbaceo puberulo lobis deltoideis acutis; corollae

tubo calyceem longe excedente sub limbo levissime amplificato puberulo ore dense pubescente lobis obovatis obtusissimis; ovario oblongo glabro; stylo incluso piloso.

Oban; n. 972.

*Leaves* 2·5–3 × 1·7–2·2 cm., when dry olive-green above, grey below, nerves conspicuous on the underside, the reticulum very open; petioles usually 8–15 mm. long. *Peduncles* about 5 mm. long, pubescent. *Flowers* violet-blue. *Calyx* ± 2 cm. long, 6 mm. broad in the dry state, bright green; lobes 3 mm. long. *Tube of corolla* 4·5 cm. long, 1 mm. broad below, at the mouth scarcely 2 mm.; lobes 8 × 6 mm. *Fertile anther-cell* linear-oblong, 1·3 cm. long. *Ovary* about 5 mm., *style* 3·5 cm. long.

Recognised by the oblong calyx together with the very short leaves.

The ovary of the flower examined having been partially destroyed by insects, the description of that organ may have to be corrected. There is a coloured drawing of this plant.

*Dischistocalyx ruellioides* S. Moore sp. nov. Fruticulus ramulis tetragonis foliosis pubescentibus; foliis petiolatis ovatis obovatisve apice obtusissimis vel acuminatis basi acutis vel acuminatis margine crenulato-undulatis membranaceis glabris; floribus approximatis (inferioribus subdistantibus) breviter pedicellatis in racemum brevem pauciflorum digestis; bracteis linearibus calyci saepe fere aequilongis ut calycis segmenta cystolithis albidis copiosissime praeditis; bracteolis parvulis subulatis; calycis segmentis posticis fere usque basin liberis omnibus elongatis linearibus acutis; corollae majusculae glabrae tubo dimidio inferiore satis angusto superne dilatato lobis late obovatis rotundatis tubo multo brevioribus; staminibus inclusis antheris oblongis basi nequaquam divergentibus muticis connectivo breviter excurrente; capsula cylindrica obtusa basi haud angustata circa 24-sperma glabra.

Oban; nn. 385, 1527.

*Lamina of leaf* up to 16 × 7 cm., but usually less (youngest leaves 5 × 3–4 cm.), faintly shining, on either side thickly strewn with cystoliths; petioles 1–3 cm. long. *Inflorescences* (corollas not included) 6–10 cm. long. *Pedicels* 2–3 mm. long. *Bract* mostly 1–2 cm., *bracteoles* only 2 mm. long. *Flowers* blue-mauve. *Calyx* 2·5 cm. long, the segments 1–1·5 mm. wide, posticous ones united only for 1 mm. *Corolla* 4·5 cm. long; tube 3–4 mm. wide below, and 8–11 mm. above; lobes about 12 mm. long. *Filaments* puberulous, 5–7 mm. long. *Anthers* 4 × 1 mm. *Capsule* ± 2 cm. long, brown, faintly shining. *Seeds* suborbicular, dark, 1·5 mm. in diameter.

A very distinct species, known at once by its narrow bracts and calyx-segments. *D. togoensis* Lindau has the segments of its calyx still narrower, but is in many other respects quite different.

A North Cameroons specimen (imperfect) in the British Museum (*Conran*, sine no.), communicated from Berlin under the name of *Dischistocalyx Buchholzii* Lindau, appears to come very close to this. The Cameroons plant does not agree with the description of



*D. Buchholzii*, a species referred by Clarke to *Acanthopale* on account of its having but 2 ovules in each cell of the ovary.

**Dischistocalyx obanensis** S. Moore sp. nov. Fruticulus ramulis subteretibus glabrescentibus; foliis longipetiolatis amplis ellipticis apice acutis breviterve cuspidulato-caudatis basi acutis membranaceis supra glabris subtus in nervis minute fulvo-pubescentibus pag. utraque cystolithis minutis creberrime indutis; floribus spicatis spicis axillaribus terminalibusve oppositis vel alternis plerisque breviter pedunculatis quam folia multo brevioribus; bracteis amplis late obovatis obtusissimis glanduloso-puberulis, bracteolis minutis subulatis; calycis puberuli segmentis oblongis obtusis anticis quam postica 3 alte connata majoribus; corollae majusculae tubo triente inferiori cylindrico superne gradatim dilatato glabro lobis suborbicularibus tubo plane brevioribus; staminibus inclusis antherarum loculis apice mucronulatis; ovario cylindrico glabro; stylo puberulo superne incrassato necnon glabro, ovulis quove in loculo circa 10.

Oban; nn. 73, 1485.

*Leaves* at most  $17 \times 6.5$ –7 cm., usually  $\pm 10 \times 6$  cm., becoming dark in drying, very faintly shining; petioles 2–4.5 cm. long. *Spikes* 4–7  $\times 1.5$  cm., their peduncles from nearly nothing to 15 mm. in length. *Bracts* about  $18 \times 13$  mm.; *bracteoles* about 1 mm. long. *Front segments of calyx* obtuse,  $14 \times 3$ –4 mm.; hind segments acute,  $14 \times 2$ –2.25 mm., the free part only 3 mm. long. *Corolla* pale violet, 4.5 cm. long; tube 2–3 mm. in diameter below, 15 mm. at the throat; lobes about 1 cm. long. *Anthers* 4 mm. long. *Ovary* 3 mm. *Style* 24 mm. long; stigmatic branch 4 mm. long. *Capsule* 11 mm. long. *Seeds* dark,  $1.5 \times 1$  mm.

This differs from *D. grandifolius* Clarke chiefly in the bracts and the smaller calyx with lobes united nearly to the top.

**Lankesteria thyrsoides** S. Moore sp. nov. Frutex caule erecto subdistanter folioso fulvo-pubescente; foliis breviter petiolatis obovatis obtusis vel obtusissimis ad medium usque gradatim amplificatis basi obtusis tenuiter membranaceis supra glabris subtus ad nervos pubescentibus; floribus albis vel dilute lavandulaceis in panicula anguste thyrsoides piloso-hirsuta dispositis; bracteis anguste lineari-lanceolatis longe acuminatis ut calycis segmenta linearia superne longe extenuata piloso-hirtis; corollae tubo filiformi calyce excedente extus puberulo lobis aliquantulum obliquis obovatis obtusissimis nonnunquam emarginatis; antherarum loculis basi mucronulatis; ovulis quove in loculo solitariis.

Oban; nn. 43A, 1471, 1646. [Also in the Kew Herbarium, Southern Nigeria; *Holland*, 180, 229.]

*Leaves* up to  $12.5 \times 4.5$  cm., often about  $10 \times 4$  cm.; petioles  $\pm 1$  cm. long, densely pubescent. *Panicles*  $\pm 6 \times 3$  cm. *Bracts*  $\pm 1$  cm. long, at most 2 mm. broad. *Calyx* 17 mm. long, the

segments with glandular hairs at the apex and simple ones elsewhere. *Tube of corolla* 22 mm. long, barely .5 mm. in diameter; limb about 12 mm. in diameter. *Cells of the anthers* 1.3 mm. long. *Ovary* oblong, glabrous, 1 mm. long.

Easily distinguished from *L. parviflora* Lindl., with which it is liable to be confused, by the thyrsoid inflorescence and the smaller white or pale mauve corollas.

Mrs. Talbot tells me the flowers are also sometimes pink. One of the Holland labels at Kew gives the flowers as "white," the other as "pink, yellow centre."

**Phaylopsis Talbotii** S. Moore sp. nov. *Planta herbacea erecta ramosa ramis gracilibus paucifloris glanduloso-pubescentibus cito glabrescentibus; foliis parvis longipetiolatis ellipticis obtusis basi longiuscule extenuatis necnon obliquis tenuiter membranaceis supra sparsim strigilloso-pilosis subtus in nervis puberulis ceterum glabris; cymis mox sparsis tandem distantibus prima juventute solummodo strobilum referentibus; foliis floralibus suborbicularibus basi rotundato-truncatis apice obtusissimis dorso glanduloso-puberulis margine pilis longis simplicibus glandulosis intermixtis hirsuto-ciliatis; calycis segmento postico ovato acuto eleganter reticulato-nervoso decolori ut segmenta cetera anguste lineari-lanceolata obtuse acuta glanduloso-pubescente; corollae parvulae tubo cylindrico limbo bilabiato quam tubus brevior; antheris inclusis, loculis basi obscure mucronulatis; ovario anguste ovoido apice ipso ut stylus omnino piloso.*

Oban; n. 977.

*Branches* up to nearly 40 cm. in length, throwing out at intervals shorter branchlets, bearing leaves in the axils of many of which are cymes. *Blade of leaf* usually 3.5-5.0 cm. long, 15 mm. broad, or somewhat less in the widest part, the uppermost few reduced in size; petioles slender, indeed almost filiform, up to 2 cm. in length, though mostly shorter. *Cymes* soon separated by distances of 3-4 mm. or more, the oldest ultimately some 2 cm. apart. *Floral leaves* about 8 x 7 mm., pale greenish-yellow, the nervation prominent upon the back. Hind segment of *calyx* 6.5 x 3.5 mm.; front segments 5 mm., lateral pair 4.5 mm. long. *Corolla* barely 5 mm. long, the tube rather more than .5 mm. broad; upper lip 1 mm. long, divided to the middle into two broadly oblong obtuse lobes; lower lip 1.5 mm. long, the mid lobe .75 x .75 mm., lateral lobes as long but a little narrower. *Anthers* .5 mm. long. *Ovary* 1 mm. long, style scarcely 2.5 mm. *Capsule* acute or acuminate, 5 mm. long, attenuated base 1 mm. long.

Near *P. obliqua* T. And., but at once distinguished from it by its broad floral leaves.

**Crossandra Talbotii** S. Moore sp. nov. *Verisimiliter suffrutex caule erecto valido pallide fulvo-tomentoso; foliis petiolatis anguste obovato-oblongis obtusis vel obtusissimis basi cordatis membranaceis supra glabris subtus in nervis pubescentibus; spicis cylindricis folia subaequantibus multifloris; bracteis ovato-oblongis*

apice truncatis vel emarginatis ipso mucronatis apicem versus margine spinuloso-denticulatis vel integris papyraceis glabris; *bracteolis* lineari-lanceolatis acuminatis calyce brevioribus; *calycis* segmentis inter se subaequalibus lineari-lanceolatis acuminatis integris anticis vero (an semper?) sparsissime spinuloso-denticulatis omnibus nervo unico percursis; *corollae* tubo ex bracteis eminente faucibus levissime ampliato lobis tubo multo brevioribus inter se subsimilibus oblongo-ovatis obtusis; *staminibus* faucibus affixis antheris apice mucronulatis; *pollinis* granis subsphaeroideis subtilissime punctatis; *ovario* ellipsoideo glabro.

Oban; n. 1026.

*Leaves* 7-10 × 3.0-4.5 cm., drying brown-green above and greyish below; petioles 1 to nearly 3 cm. long, stout, covered with the same pale fulvous tomentum as the stem. *Spikes* 5-9 cm. long, about 1.5 cm. broad, the lowest bracts generally entire, 10-13 mm. long, the upper ones 20 mm. long, 7 mm. broad, all traversed by several rather prominent longitudinal nerves, with transverse connecting nervules. *Bracteoles* 6 mm. long, like the calyx subscarious and glabrous. *Segments of calyx* 9 mm. long, 1 mm. broad about half way up; midrib prominent, especially at the base, each with several closely packed longitudinal nerves on either side of the midrib. *Tube of corolla* 18 mm. long, nearly 2 mm. wide at the throat, elsewhere 1 mm.; lobes about 11.0 × 4.5 mm. *Filaments* rather more than 1 mm. long, bearded above. *Anthers* slightly curved, 2 lines long. *Ovary* 2.5 mm. long. *Style* thickened towards the apex, slightly hairy, 2 cm. long. *Stigma* 2-lobed, rather more than 1 mm. in length.

Readily known from *C. puberula* Klotzsch and *C. guineensis* Nees by the truncate bracts and the calyx. The spheroidal pollen is abnormal, though it should not be forgotten that two quite different kinds of pollen are found in the neighbouring genus *Stenandrium*.

Apparently referable to the above, and differing from it only in the larger and longer-stalked leaves and the larger bracts, are specimens of Bates, nn. 420 and 546 from Batanga. At Kew the specimens have affixed to them a MS. name of Pierre, who considered them to belong to a new genus.

***Crossandra elatior* S. Moore sp. nov.** Frutex metralis *caule* erecto valido folioso griseo-tomentoso; *foliis* petiolatis majusculis ovato-oblongis vel oblongo-obovatis obtusis vel obtusissimis basi cordatis pergamaeis supra glabris subtus griseo-pubescentibus dein glabrescentibus; *spica* subsessili foliis circiter aequilonga; *bracteis* lanceolatis apice spinuloso-acuminatis margine argute spinuloso-denticulatis papyraceis puberulis; *bracteolis* lanceolato-oblongis spinuloso-acuminatis calycem facile superantibus; *calycis* segmentis oblongo-lanceolatis spinuloso-acuminatis integris vel infra apicem subevanide denticulatis papyraceis exterioribus quam interiora majoribus segmento quoque nervo centrali percursio additis utrinque nervis minus conspicuis; *corollae* tubo exserto superne leviter amplificato lobis quam tubus multo brevioribus

obovatis posticis quam ceteri minoribus; *staminibus* paullulum infra fauces insertis antheris oblongis apice incurvo-extenuatis barbatis; *pollinis* granis normalibus.

Oban; n. 101.

A handsome plant about 3 feet high. *Leaves* up to  $16 \times 9$  cm., often about  $12 \times 6$  cm., sometimes markedly narrowed at some distance from the base, i.e., somewhat panduriform, when dry olive-green above and grey below; petioles 1–2 cm. long, greyish tomentose. *Spike* when fully grown about 16 cm. long, the axis covered with a grey pubescence. *Bracts* 22–25 mm. long, usually with several spinulose teeth upon each edge, purple in the living state. *Bracteoles* 13 mm. long. *Larger segments of calyx*  $9.0 \times 1.75$  mm., smaller segments  $8.0 \times 1.5$  mm. *Corolla* white, with a purple spot at the base of each posticous lobe; tube barely 30 mm. long, 1.5 mm. broad, widening to 2 mm. near the top; anticus lobes about  $20 \times 12$  mm., posticus  $12 \times 8$  mm. *Anthers* 2.5 mm. long.

This also is near *C. guineensis* Nees, differing from it in habit, in the spine-toothed bracts and the calyx. The acuminate bracts serve to distinguish it on sight from *C. Talbotii*; but there are other points, including the pollen, in which the two are diverse.

#### TALBOTIA S. Moore, *Justiciæarum* gen. nov.

Calyx 5-partitus, segmentis inter se fere aequalibus. Corollae tubus cylindraceus, faucibus haud dilatatus; limbus bilabiatus, labio postico erecto bidentato antico aestivatione exteriore 3-lobato. Stamina 4, didynama, corollae faucibus inserta, filamentis ima basi per paria connatis; antherae staminum anticorum 2-loculares, staminum posticorum 1-loculares, loculis angustis parallelis muticis, staminum anticorum altero altero altius affixo. Pollinis grana pileiformia spinis brevibus copiose obsita verisimiliter facie interiori fissura lineari praedita. Discus cupularis. Stylus filiformis; stigma bilamellatum. Ovula quove in loculo 2. Herba humilis, caule radicante. Folia comparate lata, integerrima. Flores inter minores, in spicas strobiliformes axillares vel pseudoterminales late bracteatas digesti. Bracteolae calycem multo excedentes.

*Talbotia radicans* S. Moore sp. unica. Herba caule gracili repente ad nodos omnes radicante sparsim folioso; ramis adscendentibus pubescentibus; foliis ovatis apice rotundatis ipso nonnunquam obtusis basi rotundatis chartaceis supra glabris necnon cystolithis perspicuis copiosissime inspersis subtus in nervis eleganter reticulatis dense pubescentibus petiolis quam sese plane brevioribus dense pubescentibus insidentibus; spicis folia aequantibus vel quam ea brevioribus pedunculo suffulciente pubescente saepius longioribus; glomeribus in axillis bractearum sessilibus; bracteis obovatis apice rotundatis basi attenuatis dorso puberulis margine pilis simplicibus glandulosisque ciliatis herbaceis; bracteolis quam



bracteae saepius paullo brevioribus spathulato-oblongis obtusis margine ciliatis; *calycis* parvuli segmentis lineari-lanceolatis apice in appendicem filiformem exeuntibus glandulis parvis inspersis; *corollae* tubo glabro calycem multo excedente aliquantulum torto limbi extus puberuli labio postico late oblongo quam anticum paullo longiore labii antici lobis lateralibus oblongis obtusis lobo intermedio ovato-oblongo obtuso æquilongis; *staminibus* anticis longiuscule exsertis; *ovario* oblongo-ovideo sursum piloso; *style* exserto glabro. (Pl. 11, figs. 1-6.)

Oban, Ako-Aking Road; n. 971.

A prostrate rooting herb, the ascending flower-bearing branches eventually rooting in their turn. *Blade of leaf* usually  $3\cdot5-5 \times 2\cdot5-3\cdot5$  cm., grey-green when dry, paler below and with an open network of prominent hairy nerves; petioles  $1\cdot1\cdot5$  (rarely up to  $2\cdot5$ ) cm. long. *Bracts* about  $10 \times 7$  mm. *Bracteoles* 8-10 mm. long,  $1\cdot75$  mm. wide at the broadest part. *Spikes* usually 2-4 cm. long, on peduncles of 1-2 cm. *Calyx* about  $2\cdot5$  mm. long. *Tube of corolla* 9 mm. long, 3 mm. broad. Upper lip  $7\cdot5 \times 3$  mm.; lower lip 7 mm. long, the lateral lobes  $4\cdot5 \times 2$  mm., the middle lobe  $4\cdot5 \times 3$  mm. *Filaments* of front pair of stamens 4 mm. long, of hind pair 2 mm. *Anthers* 2 mm. long. *Pollen-grains* about  $70 \mu$  in diameter ( $55-80 \mu$ ). *Ovary*  $1\cdot5$  mm. long. *Style* 12 mm. long. *Capsule* not seen.

The position of this very distinct genus is somewhat uncertain, but in view of all circumstances the neighbourhood of *Lepidagathis* would seem to be its proper location. It should be observed that the supposed slit on the inner face of the pollen-grains was not clearly made out.

*Justicia* (§ Gendarussa) *nigerica* S. Moore sp. nov. Fruticulus rariramosus ramis elongatis distanter foliosis minute puberulis dein glabris; foliis petiolatis amplis ovato-oblongis vel oblongo-obovatis apice caudato-acuminatis ipso obtusis basi saepe obliqua itaque obtusis margine crenulato-undulatis tenuiter coriaceis nitidis costis pag. inf. minute puberulis exemptis glabris; paniculis spiciformibus elongatis multifloris minute puberulis; foliis floralibus saepissime parvis lineari-oblongis ut bracteae bracteolaeque parvae necnon subulatae minute puberulis; floribus subsessilibus; calycis puberuli segmentis 5 lanceolatis obtuse acutis; corollae tubo ex calyce paullo eminente superne levissime amplificato palato intruso limbi extus minute pubescentis labio postico late ovato bidentato quam anticum usque ad medium 3-lobum paululum brevior; antherarum loculo sup. breviter calcarato inf. calcarari valido incurvo onusto; ovario pubescente; style pilosulo.

Oban; nn. 995, 2008.

Apparently a shrub with stoutish sparingly leafy branches. *Blade of leaf*  $8-14 \times 4-6$  cm., drying brownish, the ribbing rather prominent, especially on the underside; petioles 1-3 cm. long, with the same clothing of very minute brown hairs found upon branches, leaves, &c. *Spikes* simple or very sparingly branched below, reaching almost

30 cm. in length, though usually shorter, at most 12 mm. broad, but usually much less, the internodes between the partial inflorescences diminishing from 2 cm. at the bottom of well-grown spikes to 2 mm. or less at the top. *Peduncles*  $\pm$  4 cm. long. *Floral leaves* at most (and then very occasionally) up to 15 mm. in length, usually only 3-5 mm. *Bracts* and *bracteoles* about 2 mm. long. *Calyx* 3.5 mm. long, the segments each with 3 longitudinal nerves. *Corolla-tube* 4.5 long, 2 mm. wide at bottom, at the throat 3 mm.; upper lip 4.0  $\times$  3.5 mm.; lower lip 4.5 mm. long; its middle lobe 2.5  $\times$  2.0 mm., side lobes 2.5  $\times$  1.5 mm. Upper cell of *anthers* 1.5 mm. long, lower cell 2 mm. *Ovary* subcylindric, a trifle narrowed at the top, barely 2 mm. long. *Style* 6 mm. long.

Near *J. pyramidata* Clarke, but with marked differences in shape of leaves, inflorescence and flowers.

It is said to stupefy fish, like other species of this genus and of *Adhatoda*.

*Justicia* (§ *Gendarussa*) *tenuipes* S. Moore sp. nov. *Herba caule* abbreviato plerumque simplici paucifolioso dense pubescente: *foliis* satis approximatis (haud rosulatis) ovatis vel ovato-oblongis utrinque rotundatis vel apice obtusissimis membranaceis supra cito fere glabris subtus in nervis pubescentibus nisi fere glabris margine ciliatis petiolis brevibus dense pubescentibus insidentibus; *cymis* paniculatis terminalibus vel ex axillis summis oriundis folia paullo excedentibus laxe paucifloris tenuissimis glanduloso-piloso-pubescentibus; *bracteis* parvis linearibus acutis bracteolas aequantibus: *calyce* bracteas longe excedente 5-partito segmentis linearibus acuminatis ut bracteae bracteolaeque glanduloso-puberulis: *corollae* mediocris tubo calyce longiore cylindrico labio antico tubo breviori obovato breviter lobato lobo intermedio quam laterales latiore lobo postico quam anticus plane breviori ovato bidentato: *antheris* subinclusis harum loculo inf. breviter debiliterque calcarato; *ovario* ovoideo-oblongo minutissime pubescente: *stylo* pilosulo; *capsula* basi longe stipitata acuta pubescente 4-sperma.

Oban; n. 1483.

A small plant with the habit of *Jerdonia indica* Wight, and other lowly Gesneraceae. Lower part of stem creeping and rooting at the nodes, upper part ascending, usually simple, but occasionally throwing out a weak side-branch. *Leaves* three or four pairs, younger at intervals of 5-7 mm., the lower more distant; blade up to 6 or 7 cm. long and 3.5-3.7 cm. broad, but often much smaller, e.g., 3.0  $\times$  1.5 cm., the nervation very prominent on the underside, especially in the case of larger leaves; petioles stout, 3-8 mm. long. *Inflorescence* of very small specimens reduced to a single lengthily pedunculate flower, but usually of cymes, which may reach 10  $\times$  6 cm., of which 3.5 cm. belongs to the filiform peduncle, the main axis giving off usually 2 pairs of lateral branches, which may themselves branch again, each branch at the top producing a cymule of 2-3 subsessile or peduncled flowers, the branches and peduncles filiform and pilose-pubescent. *Bracts* and *bracteoles*

2.5-3.0 mm. long. *Flowers* pale mauve. *Calyx* 8 mm. long, with somewhat unequal segments. *Corolla-tube* 10 mm. long, 2 mm. wide; upper lip 5 mm. long, 3.5 mm. broad, rounded distally and topped with a small 2-toothed cusp less than 1 mm. long; lower lip 6.5 × 3.75 mm. *Anther-cells* linear, the upper 1-2 mm. long, the lower (including the spur) 1.75 mm. *Ovary* 1.5 mm.; *style* 12 mm. long. *Capsule* 13-14 mm. long, the stipe 6.5-8.5 mm. long and about 1 mm. wide, the seed-bearing part 2 mm. wide. *Seeds* brown, minutely warted, the lower 1.5 mm. in diameter, the upper smaller and perhaps not functional.

A remarkable plant, unlike any African *Justicia* known to me. It should be inserted in the genus at the end of § Gendarussa after *J. glabra* Roxb.

*Justicia* (§ Gendarussa) *Talbotii* S. Moore sp. nov. Fruticulus *ramis* foliosis ad nodos aliquantulum tumidis minute fulvo-pubescentibus deinde glabrescentibus; *foliis* satis longe breviusve petiolatis ovatis apice cuspidato-acuminatis ipso obtusis basi obtusis membranaceis supra glabris subtus in nervis minute pubescentibus; *foliis floralibus* paucis senioribus lanceolatis vel ovato-lanceolatis exemptis parvis lineari-lanceolatis subulatisve minute pubescentibus; *floribus* submediocribus breviter pedicellatis in paniculam elongatam apertam crebro ramosam minute pubescentem digestis; *bracteis* bracteolisque parvis lanceolato-oblongis obtuse acutis; *calycis* segmentis 5 lanceolato-oblongis obtusis acutisve minute pubescentibus; *corollae* extus puberulae tubo calycem excedente satis lato faucibus haud dilatato labio antico late rotundato-obovato ultra medium diviso labium posticum ovato-deltaeum apice retusum aequante; *antherarum* loc. inf. incurvo-calcarato; *ovario* minute pubescente; *stilo* incluso puberulo; *capsula* inferne compressa.

Oban; n. 1425.

Blade of *leaf* at most 14 × 6.5 cm., usually 8-9 × 4-4.5 cm., green when dry, somewhat paler below; petioles of the largest leaves 3 cm. long, of the smaller 1 cm. or less, channelled above, minutely pubescent. *Panicle* 16-29 × 5-9 cm., the main axis straight, the lateral branches springing from it at about a right angle and mostly 2-4 cm. long. Oldest *floral leaves* 2.5-3 cm. long, 8-10 mm. broad, the rest 2-10 mm. long. *Flowers* unilateral upon the partial inflorescences, cream-white with dark crimson lines. *Pedicels* 1-5 mm. long. *Bracts* and *bracteoles* about 1 mm. *Calyx* 5 mm. long. *Tube of corolla* 7 mm. long, 3 mm. broad; *lips* 5 mm. long, the upper nearly 5 mm. wide at the base, the lower about 4 mm. wide, with lobes 3 mm. in length; palate very intrusive. *Filaments* 3 mm. long. Upper cell of *anthers* 1.2 mm. long, lower cell narrower, 1.75 mm. long, including the strongly curved spur. *Ovary* 2 mm. long. *Style* 6.5 mm. long. *Capsule* 18 mm. long, the compressed basal part 10 mm. broad, the fertile part 3.5 mm. *Seeds* with a brown finely warted testa, about 2 mm. in diameter; retinacula truncate.

Near the last, but with different inflorescence and flowers. This is one of the plants used by the natives to stupefy fish.

*Justicia* (§ *Gendarussa*) *thyrsiflora* S. Moore sp. nov. Fruticulus ramis prolixis distanter foliosis fulvo-pubescentibus deinde glabrescentibus; *foliis* ellipticis apicem versus attenuatis apice obtusis basi in petiolum brevem attenuatis raro rotundatis firme membranaceis glabris; *foliis floralibus* parvis linearibus pubescentibus; *floribus* pro rata parvis in paniculam thyrsoideam pedunculatam multiflorem dense fulvo-pubescentem dispositis; *bracteis bracteolisque* parvulis subulatis pubescentibus; *pedicellis* brevissimis; *calycis* pubescentis segmentis 5 lanceolatis acutis; *corollae* extus puberulae tubo calycem duplo superante superne vix aucto labio postico anticum breviter excedente late ovato bilobo labio antico adusque medium trilobo lobo intermedio quam laterales majori; *antherarum* loculo inf. valide calcarato; *ovario* glabro; *stilo* piloso.

Oban; n. 976.

A low shrub with lengthy branches sparsely leafy. *Leaves* usually 7-10 × 3.5-5 cm., but sometimes smaller, e.g., 5 × 2.5 cm., those of a pair often unequal in size, olive-green when dried; petioles about 5 mm. long, pubescent. *Peduncle* of thyrsus 7 cm. long. *Inflorescence* itself at most 9 cm. long and 3.5 cm. in breadth below, narrowing upwards. *Flowers* subsessile, produced on one side of the partial inflorescences. *Floral leaves* about 5 mm. long. *Bracts* and *bracteoles* 1.5 mm. long. *Calyx* 3.5-4 mm. in length. *Corolla-tube* 4 mm. long, 1.5 mm. wide at the base, and but little exceeding 2 mm. at the throat. Upper lip 4.5 × 2.5 mm.; lobes very obtuse, barely 1 mm. long; lower lip 4 × 3 mm., its middle lobe 2 × 1.5 mm., the side lobes 2 × 1 mm. *Anthers* exserted, the upper of either pair of cells scarcely more than 1 mm. long, the lower including the strong, nearly straight obtuse white spur almost 2 mm. in length. *Ovary* 1.5 mm. long.

This has much the appearance of *J. laxa* T. And. and its allies; its characteristic features are, in association with the thyrsoid fulvous-pubescent inflorescence, the linear floral leaves and the small flowers.

*Siphonoglossa Macleodiae* S. Moore in Macleod "Chiefs and Cities of Central Africa," 304. *Herba* caule ascendente aliquanto geniculato satis distanter folioso piloso vel sparsim piloso-puberulo; *foliis* brevipetiolatis lineari-rarius oblongo-lanceolatis obtusis membranaceis praesertim juxta basin piloso-puberulis mox fere glabris margine ciliolatis; *floribus* in axillis superioribus 2-3 sessilibus subsessilibusve; *bractea* calyci circa aequilonga anguste lineari-lanceolata obtuse acuta margine pilis piloso-hispidulis ciliata; *bracteolis* parvulis anguste lineari-oblongis glabris; *calycis* segmentis 5 inter se inaequalibus lineari-lanceolatis longe acuminatis margine ciliolatis; *corollae* tubo calycem manifeste excedente anguste cylindrico faucibus leviter amplificato dimidio superiori puberulo ceterum glabro labio antico elongato adusque medium diviso lobis lateralibus ovato-oblongis intermedio ovato aequilongis omnibus obtusissimis labio postico abbreviato quadrato-ovato apice retuso; *staminibus* breviter



exsertis antherarum loculis linearibus loc. inf. solum calcarato; *stylo* apice 2-dentato puberulo; *capsula* anguste obovoides acuta superne puberula alibi glabra 4-sperma.

North Nigeria, R. Benue.

*Leaves* 3-5 cm. long, 4-8 mm. broad, drying green; petioles 2-4 mm. long. *Bracts* in flowering stage 10 mm., in fruiting stage 12 mm. long; *bracteoles* 2-2.5 mm. long. Limb of *corolla* purple. *Segments of calyx* in flower 6-8 mm., in fruit 8-10 mm. long. *Corolla* when moistened 28 mm. long; tube 17 mm. long,  $\pm$  1.5 mm. broad, at the throat 2 mm. broad; lower lip 11 mm. long, its lobes 5.5 mm. long; upper lip 7 mm. long. Upper cell of *anther* 1.6 mm. long, lower (including the slightly curved spur) 2 mm. *Pollen-grains* usually with 4 rows of tubercles on either side of each pore. *Style* 2 cm. long. *Capsule* 11 mm. long, compressed below. *Seeds* tubercled, brown, rather more than 1 mm. across.

At first sight this looks rather like *Justicia Galeopsis* T. And., but the narrower leaves and of course the long corolla-tube are easy distinguishing features. According to Lindau's views this is an *Aulojusticia*, but I agree with Bentham & Clarke in placing the allies of the plant just described in the genus *Siphonoglossa*.

*Barleria* (§ *Acanthoidea*) *bornuensis* S. Moore in Macleod "Chiefs and Cities of Central Africa," 304. Frutex vel fruticulus ramosus ramis crebro foliosis aliquantulum flexuosis ad nodos leviter tumidis juventute pubescentibus dein glabris; foliis parvis subsessilibus oblongis vel oblongo-ovatis breviter spinoso-acuminatis integris raro sparsissime spinuloso-denticulatis coriaceis pagina utraque pilis strigillosis appressis onustis; spinis inter-petiolaribus binis patentibus vel ascendenti-patentibus simplicibus vel juxta basin 1-3-denticulatis ventre planis dorso convexis apice pungentibus sordide albis glabris; bracteis spinis interpetiolaribus similibus; floribus in axillis superioribus solitariis subsessilibus; calycis parvuli puberuli segmento antico ovato-oblongo apice bidentato margine integro segmento postico antico subsimili apice obtuso segmentis lateralibus oblongis obtusis quam reliqua paullo longioribus omnibus herbaceis; corollae violaceae tubo calycem excedente tridente superiori ampliato lobis omnibus inter se subsimilibus late rotundato-obovatis lobo antico altius soluto; staminibus 2 subinclusis; staminodiis 2 antheris parvis gaudientibus tertium anthera orbem laud vel paullulum superantibus; ovario ovoideo glabro; ovulis quove in loculo 2; capsula anguste ovoideo-oblonga basi apiceque angustata.

Lake Chad District; n. 1009.

*Leaves* 8-13  $\times$  4-7 mm., the terminal spinelet about 1.5 mm. long, drying a darkish grey-green; petioles at most not much exceeding 1 mm. in length. *Interpetiolar spines*  $\pm$  1 cm. long, not very strong but sharply pointed. *Outer segments of calyx* 6 mm. long, 3-3.2 mm. broad; inner segments 7 mm. long, all the segments ciliate at the margin. *Corolla* 34 mm. long; tube in front 15 mm., behind 22 mm.

long, 3.5 mm. wide below, increasing to double that width at the throat; lobes 12 mm. long (front one 18 mm.) and 8-10 mm. broad. *Staminal filaments* 15 mm. long. *Anthers* ovate-oblong, 4.5 mm. long. *Staminodes* 5-6 mm. long. *Ovary* 2.5 mm. long. *Style* glabrous except for the pilose base, 25 mm. long. *Capsule* 12 mm. long, 6 mm. wide at the widest part, apparently 4-seeded, but seeds not seen.

Much like *B. triacantha* Hochst. in habit, but different from it in several respects, notably in the calyx. For the lateral segments of the calyx to exceed the outer segments, as they do here, is very unusual in the genus.

**Barleria** (§ *Eu-Barleria*) **Talbotii** S. Moore sp. nov. Frutex spinosus *ramulis* tetragonis frequenter foliosis ad nodos aliquantulum tumidos piloso-puberulis tandem glabris; *foliis* petiolatis oblongo-ovatis apicem versus subito attenuatis apice mucronulatis papyraceis pagina utraque glabris leviterque nitentibus; *floribus* pluribus ex axillis superioribus approximatis ortis inflorescentiam densam ovoideam constituentibus breviter pedicellatis; *bracteis* calyce brevioribus linearibus puberulis; *calycis* extus sparsim puberuli intus pubescentis segmentis exterioribus late ovatis margine undulatis vel rarissime dentatis ciliatis segmento postico apice acuto segmentis anticis fere ad apicem usque connatis segmentis lateralibus quam exteriora multo brevioribus lanceolatis acutis; *corollae* cyaneae extus puberulae tubo calyci subaequilongo cylindrico lobis anguste oblongo-obovatis posticis paullo minoribus antico altius soluto; *staminibus* longe exsertis staminodiis 3 abbreviatis inter se subaequalibus 2 antheram parvam fulcentibus; *ovario* late ovoideo acuto glabro; *style* exserto glabro.

Oban; n. 1396.

A shrub with smooth trailing leafy branchlets. *Leaves* 7-9 × 3.5-5 cm., the uppermost about 4.5 × 2 cm., drying a dark olive-green, the underside sparsely studded with pale straw-coloured cystoliths, nervation to the naked eye rather obscure; petioles from 2 mm. in the uppermost leaves to 1.5-2.5 cm. in the lower, channelled and puberulous above. *Inflorescences* (omitting the corollas) 4-5 × 3.5 cm. *Bracts* 8 mm. long, scarcely 1 mm. broad. *Pedicels* 3 mm. long. *Flowers* white with faint mauve shading. *Posticous segment of calyx* 20 × 14 mm.; *anticous* 15 × 12 mm., its two terminal teeth 1-2 mm. long; *lateral segments* 7 mm. long, densely ciliated. *Tube of corolla* 17 × 4 mm.; *front segment* 28 mm. long, other segments 22 mm., the front segment 12 mm., the lateral 10 mm., and the hinder pair 7 mm. broad. *Filaments* thick and fleshy, 4.7 cm. long. *Anthers* 3 mm. long; *staminodes*, like the filaments dilated at the base, 3 mm. long, their anthers 1.5 mm. in length. *Ovary* 2 mm. long. *Style* 6 cm. long.

The affinity is with *B. Brownii* S. Moore, a Uganda plant which it much resembles in leaf and inflorescence. That species, however, has much smaller and differently-shaped calyx-segments and corollas, etc., different in several respects. I am indebted to Mr. Turrill, of the Kew Herbarium, for directing my attention to this as a new species of *Barleria*.

**Asystasia dryadum** S. Moore sp. nov. Herba ramis ramulisque gracilibus sparsim foliosis cito glabris; *foliis* petiolatis ovatis apicem versus angustatis apice obtusis basi rotundatis obtusisve membranaceis glabris; *floribus* pro rata mediocribus in racemis terminalibus abbreviatis paucifloris dispositis; *bracteis bracteolisque* parvulis subulatis acutis; *calycis* segmentis anguste oblongo-lanceolatis acutis intus microscopice puberulis ceterum glabris vel fere glabris; *corollae* tubo ex calyce eminente a basi usque ad fauces gradatim dilatato glabro lobis quam tubus plane brevioribus inter se subaequalibus late obovatis obtusissimis; *staminibus* infra medium tubum insertis antherarum loculo altero paullulum altius affixo loculis omnibus basi obtusis muticis; *ovario* fulvo-tomentoso; *stylo* apice brevissime bilobo.

Oban; n. 991.

Slender, divaricate, somewhat anfractuose, trailing branches subdistantly leaf-bearing. *Blade of leaf* usually 2.5-4 × 1.3-1.7 cm., at most (and that rarely) 6 × 2.5 cm., brownish-green when dry; petioles 5-12 mm. long, usually with a few short hairs upon them. *Racemes* 3-flowered (exclusive of the corollas), 2-5.5 cm. long, including the 5-25 mm. long peduncle. *Pedicels* 1-2 mm. long. *Bracts and bracteoles* about 1.5 mm. long. *Segments of calyx* 9 mm. long, 1.8-2 mm. wide in the widest part, often with a few microscopical hairs on the outer side and with faint traces of ciliation on the margin. *Corolla-tube* 20-22 mm. long, when moistened 3 mm. wide near the base, expanding to 9 mm. at the throat. *Lobes* 7 × 5-6 mm. *Filaments* inserted at 7 mm. from base of corolla, the longer pair 5 mm. long, the shorter scarcely 3 mm. *Anthers* 1.25 mm. long. *Ovary* ovoid, narrowed above and passing into the style, 3 mm. long. *Style* glabrous, about 1 cm. long.

The affinity of this is with *A. Buettneri* Lindau, which is different in leaf, calyx, anthers, and a few other points of minor importance.

No. 991A, also from Oban, is probably to be referred here, though its longer petioles, greater number of flowers to the raceme, and strongly ciliate calyx-segments, are special features.

**Adhatoda auriculata** S. Moore sp. nov. Suffrutex ramis quadrangularibus juventute fulvo-pubescentibus dein glabrescentibus; *foliis* amplis oblongo-obovatis obtusis basi biauriculatis papyraceis supra pilis sparsis strigillosis appressis exemptis fere glabris subtus in nervis fulvo-pubescentibus petiolis brevibus validis dense pubescentibus; *spicis* ex axilla foliorum paris summi sub alabastro apicali oriundis simplicibus pedunculatis foliis brevioribus sparsim pubescentibus; *bracteis* calycibus brevioribus lanceolatis obtuse-acutis ut calyx bracteolaeque sibi ipsis subsimiles sparsim pubescentibus; *calycis* segmentis 5 lineari-lanceolatis acutis; *corollae* extus pubescentis tubo calyce brevior ad fauces subito contracto limbo tubo subaequilongo labio antico alte tripartito postico emarginato; *antherarum* loculis inaequalitatis loc. inf. breviter obtuseque calcarato; *ovario* fulvo-villoso; *stylo* deorsum

puberulo; *capsula* inferne compressa superne ovoidea acuta fulvo-pubescente 4-sperma.

Oban; n. 2011. Also Cameroons; Zenker, n. 4395.

*Blade of leaf* 20–28 cm. long, 7–11 cm. broad, spreading in the dried state and greyish-green, the basal auricles deltoid, acute, about  $5 \times 7$  mm.; petioles 8–20 mm. long. *Spikes* solitary or one from each axil immediately beneath the apical bud, erect, 15–18 cm. long (of which a length of 5–6 cm. belongs to the peduncle) and about 1 cm. broad. *Bracts* and *bracteoles* 5–6 mm. long, those of the upper flowers somewhat smaller. *Segments of calyx* 9 mm. long, with faint longitudinal nervation. *Corolla-tube* 4.5 mm. long, 3 mm. broad, at the throat contracted to 2 mm.; upper lip galeate, oblong-ovate, 5.5 mm. long; lower lip 5.5 mm. long, its lobes oblong, obtuse, and 4.5 mm. long. *Stamens* ascending beneath the galea. *Filaments* fleshy, puberulous, about 5 mm. long; *anther-cells* broadly oblong, rather more than 2 mm. in length. *Ovary* 2 mm. and *style* 8.5 mm. long. *Capsule* 27 mm. long, the barren part  $17 \times 2-3$  mm., the seed-bearing part  $10 \times 6$  mm. *Seeds* oval-oblong, with a dark nearly smooth testa, about 4 mm. long, the curved retinacula ending in a sharp point.

The shape of the leaves and the small flowers with deeply tripartite lower lip and puberulous filaments are the chief points separating this from *A. tristis* Nees.

*Hypoestes* (§ Apolyton) *Talbotiae* S. Moore sp. nov. *Herba caule* inferne radicante superne ascendente sparsim ramoso quadrangulari glabro ramulos tenues minute puberulos emittente; *foliis* oblongo-rarius ovato-lanceolatis acutis in petiolum brevem angustatis utrinque glabris; *involucris* bifloris (flore secundo verisimiliter laud maturante) inter se satis distantibus in paniculas racemosas laxas elongatas minute puberulas digestis; *bracteolis exterioribus* liberis inter se subaequalibus anguste lineari-lanceolatis acutis minute pubescentibus margine ciliolatis; *bracteolis interioribus* exterioribus similibus nisi paullo minoribus; *calyce* bracteolas exteriores semiaequante circa adusque medium divisis segmentis lineari-lanceolatis acuminatis ciliatis; *corollae* extus piloso-puberulae tubo involucrum aequante sursum levissime ampliato limbi tubum excedentis labio antico obovato labio postico anguste lanceolato-oblongo integro; *filamentis* pubescentibus; *stilo* glabro; *ovulis* in loculis 2.

Oban, station garden; n. 2005.

A lowly plant, the stem reaching two spans' height above its decumbent rooting portion. *Leaves* usually  $4-6 \times 1.5-2.5$  cm., but the largest up to  $12 \times 4$  cm., dark on the upper side when dry and paler below; petioles of the smaller leaves 5 mm. long or less, of the largest 1.5–2 mm. *Panicle* about 8–10 cm. long and 6 cm. in diameter, slender and very lax, its lower branches 6 cm. or more in length, the uppermost 2–5 cm.; intervals between the involucre  $\pm 10$  mm., the youngest closer together. *Floral leaves*, all except the lowest, subulate, acute, 2–3 mm. long. Outer involucral leaves 9–10 mm. long, inner 8 mm. *Calyx* 4.5 mm. long. *Flowers* bright



magenta. *Corolla* 23 mm. long; tube barely 10 mm. long, 1 mm. or slightly more wide in its lower part, and only 2 mm. at the throat; lower lip 13 mm. long, 6.5 mm. at the widest part, its lobes deltoid-rotundate, and 1.25 mm. long, the mid-lobe 2.25 mm. broad. *Filaments* stout, 10 mm. in length. *Anther-cells* 2 mm. long. *Ovary* 1.5 mm. *Style* 17 mm. long.

Quite unlike any African species known to me. In habit it resembles *H. phyllostachys* Bak. from Madagascar, but to mention one point only, the involucre of the two are different.

*Rungia dimorpha* S. Moore sp. nov. Herba caule erecto distanter folioso bifariatim pubescente mox glabro; foliis ovatis (summis lanceolato-ovatis) apicem versus acuminatis apice ipso obtusis vel emarginatis basi in petiolum brevem angustatis papyraceis utrinsecus (nervis puberulis nisi pubescentibus exclusis) glabris; spicis elongatis breviter pedunculatis terminalibus axillaribusve solitariis vel 2-3-nis quam folia brevioribus; bracteis arete imbricatis dimorphis sc. sterilibus ovatis sursum gradatim angustatis apice obtusis vel obtuse acutis basi breviter amplexicaulibus quam fertiles obovatae obtusissimae subito brevissime cuspidulatae basi leviter cordatae longioribus bracteis omnibus papyraceis laete viridibus margine angustissime decoloribus ut spicarum axis glandulo-pubescentibus; bracteolis oblongo-lanceolatis acutis quam bractea stipans paullulum brevioribus; calycis segmentis 5 angustissime lineari-lanceolatis acutis bracteolas aequantibus glanduloso-pubescentibus; corollae tubo calycem breviter excedente superne gradatim ampliato labio antico suborbiculari breviter 3-lobo lobis lateralibus quam intermedius latioribus labio postico deltoideo-triangulari apice integro: antherarum loc. sup. basi appendice lata obtusissima onusto loc. inf. basi incurvo-calcarato; capsula oblonga puberula 4-sperma.

Oban; n. 1528.

*Branches* somewhat wiry, swollen at the nodes, drying blackish. *Leaves* usually about  $12 \times 5.5$  cm., a few  $7-10 \times 2.5-4$  cm., deep green when dry and palely shining; petioles  $\pm 1$  cm. long, pubescent above. *Spikes* (including the 1 cm. long peduncle) generally 8-12 cm. long,  $1.5-2$  cm. broad. *Sterile bracts* mostly  $11-15 \times 6-8$  mm.; *fertile bracts* about  $10 \times 6$  mm. *Bracteoles*  $6 \times 1.75$  mm., glandular pubescent. *Segments of calyx* somewhat unequal,  $6-7 \times .5$  mm. Tube of nearly glabrous pale greenish *corolla* 9 mm. long, 2 mm. wide below, at the throat 4 mm.; lower lip  $5 \times 6.5$  mm., the lobes scarcely 1 mm. long; upper lip purple-dotted, 4.5 mm. long and 4 mm. wide at the base. *Filaments* exerted to a length of 2.5 mm.; upper cell of anther 1.5 mm. long, lower cell 1.75 mm. *Pollen* ellipsoidal with a narrow and a broader finely tuberculate band between each of the six pores. *Ovary* 1.5 mm. long; *style* 9 mm. *Capsule* 7 mm. long, flattened base as long as the fertile part. Seeds suborbicular with brown, finely tubercled testa, .5 mm. in diameter.

Allied to *R. obcordata* Lindau, which has uniform bracts and different flowers.

*Dicliptera obanensis* S. Moore sp. nov. Herba spithamea vel paullo ultra *caule* inferne decumbente radicante superne ascendente simplici (anne semper?) gracili puberulo cito fere glabro; *foliis* petiolatis ellipticis apice saepissime acuminatis ipso obtusis basi acuminatis acutisve utrinque glabris; *involucris* 2-floris (flore altero valde immutato) inter se satis distantibus oppositis vel alternis in paniculis racemiformibus plerumque terminalibus quam folia brevioribus dispositis; *foliis floralibus* parvulis lineari-subulatis patentibus recurvisve; *bracteolis exterioribus* parum inaequalibus ovatis acutis fere glabris laete viridibus; *bracteolis interioribus* quam exteriores multo minoribus lineari-lanceolatis acuminatis decoloribus margine ciliolatis; *calycis* bracteolas int. longe excedentis segmentis anguste lineari-lanceolatis acuminatis subdistanter granuloso-ciliatis; *corolla* a bracteolis ext. leviter superata ejus tubo labium excedente sursum leviter amplificato labiis ovatis lab. sup. apice retuso lab. inf. tridentato; *staminibus* exsertis; *capsula* late obovoidea acuta basi longiuscule stipitata sparsim pubescente 4-sperma.

Oban; n. 1363.

*Leaves* 6–13 cm. long, 2·5–5 cm. broad, bright green when dry, paler on the lower side, those of opposite pairs sometimes unequal in size; petioles up to 3 cm. in length, but usually about 1 cm. and in the case of the uppermost leaves sometimes even shorter. *Inflorescences* at most 7 cm. long, the axis slender and sometimes anfractuose, the interspaces between the involucre 5–10 mm. long, but the uppermost closer together. *Floral leaves* rather rigid, about 4 mm. long. *Peduncles* up to 3 mm. long, puberulous. The larger of the *outer bracteoles* 14–16 × 7·5–8·5 mm., the smaller about 13 × 6 mm.; *inner bracteoles* 2·5 mm. long. *Calyx* nearly 6 mm. long. *Corolla-tube* 8·5 mm. long, 1·5 mm. wide, increased at the throat to 2·5 mm.; upper lip 4 × 2·75 mm., lower lip 4·5 × 2·25 mm. *Filaments* 2 mm. long; *anther* cells 1 mm. *Ovary* 1·5 mm. long; glabrous *style* 10 mm. *Capsule* 7 mm. long, the seed-bearing portion 4·5 mm. long. *Seeds* rather more than 1 mm. in diameter, very minutely tubercled, brown.

To be inserted in the genus next *D. alternans* Lindau, which has somewhat different leaves and much smaller bracteoles, corollas and capsule.

## VERBENACEÆ.

*Clerodendron Talbotii* Wernham sp. nov. Frutex ramulis patule et sparsiuscule pilis articulatis longiusculis indutis; *foliis* ellipticis papyraceis utrinque sparse pilosis supra nitentibus breviter acuminatis acutis basi rotundatis margine integro petiolo breviusculo parte inferiore demum uncam validam lignosam nonnunquam formante; *floribus* capitatis bracteatis breviter pedicellatis, bracteis parvis lanceolatis; *calyce* campanulato fere ad medium in lobos ovatos membranaceos articulato-

pilosos acutissimos diviso; *corolla* longe tubulosa extus pilis glandulosis sparsim pubescente, tubo tenui vix incurvo apice vix ampliato, lobis subaequalibus; *staminibus* cum *style* longissime exsertis.

Oban; n. 341.

*Leaves* up to 20 cm.  $\times$  11 cm., with stalk 3.5 cm. long. *Flower-heads* 2.5–3 cm. in diameter, sessile or nearly so. *Bracts* up to 1 cm.  $\times$  3 mm. *Calyx-segments* about 1.2 cm.  $\times$  7 mm. *Corolla-tube* exserted 2.5 cm. beyond calyx, lobes 7 mm. long.

Near *C. capitatum* Schum. & Thonn., but flowers much shorter.

**Clerodendron obanense** Wernham sp. nov. Frutex ramulis subteretibus levibus fistulosis fragilibus; *foliis* obovato-lanceolatis breviter subito acuminatis apice obtusiusculo, margine integro, utrinque glaberrimis basi subrotundis longiuscule petiolatis, petioli parte inferiore indurante persistente; *floribus* capitatis lateralibus, pedicellis tenuibus; *calyce* membranaceo fere ad basin in lobos ovatos breviter setaceo-acuminatos acutissimos sparse praecipue in margine articulato-pilosos diviso; *corollae* tubo tenui recto elongato apice parum ampliato, pilis glandulis paucis conspersis, lobis subglabris subaequalibus patentibus; *genitalibus* nec longissime exsertis.

Oban; n. 2081.

*Leaves* 25 cm. long, including acumen 2 cm., 11–12 cm. broad; petiole 5 cm., including persistent lower part 1.5 cm. long. *Inflorescence*, without the corollas, about 4.5 cm. in diameter. *Calyx-segments* about 12 mm.  $\times$  5 mm. *Corolla-tube* exserted 4 cm. beyond the calyx; lobes 12–14 mm. long.

Similar to the preceding, but distinct in the want of hairs, complete in the vegetative parts, and almost complete in the flowers; also in the size of the leaves and flowers.

**Vitex bogalensis** Wernham sp. nov. Frutex parvus ramulis nisi novellis dense ferrugineo-pubescentibus glabris, cortice cinereo-cano indutis; *foliis* palmate compositis 3–5-foliolatis, petiolo longiusculo ramulorum modo indutis, foliolis plerumque sessilibus obovatis parvis basi cuneatis brevissime acuminatis obtusis utrinque praesertim in venis subtus prominentibus supra impressis pubescentibus, glandulis minutissimis pellucidis; *floribus* in cymis axillaribus plus minus paucifloris laxiusculis pedunculo petiolum subaequante necnon ei simili; *bracteis* lineari-setaceis; *calyce* campanulato villosissimo lobis triangularibus subacutis tubum aequantibus; *corolla* extus praecipue in lobis pubescente tubo calycem multo excedente; *staminibus* exsertis; *fructu* globoso nisi apice flavo-tomentoso glabrato.

North Cameroons, Bogalo Peak, near summit, n. 1046.

*Middle leaflet* 4 cm. long, 1.7 cm. broad; lateral leaflets 3 cm. long, 1.2 cm. broad; petiole 2.7 cm. long. *Peduncles* 2 cm. *Bracts* to 4 mm. long. *Calyx* about 3 mm. long, including lobes 1.5 mm.

long. *Corolla-tube* about 5 mm. long; lobes 2 mm. *Fruit* about 1 cm. in diameter.

*Vitex obanensis* Wernham sp. nov. Frutex subglaber ramulis fistulosis; *foliis* digitatum compositis longe petiolatis petiolo minutissime puberulo; *foliolis* plerumque obovatis subito breviter acuminatis utrinque acutis supra scabridiusculis infra nisi in venis minute pubescentibus glabratis glandulosis, petiolulis mediorum trium longiusculis lateralium brevissimis; *inflorescentia* laxissima cymorum 3-4-florum peduncululorum panicula terminali minutissime ferrugineo-pubescente ebracteata; *florum* parvorum pedicellis pubescentibus bracteolis minutis; *calycis* limbo integro; *corollae* multiglandulosae tubo valde curvato multo e calyce exserto, lobis superioribus brevibus latissimis labio inferiore ovato longo marginibus reflexis.

Oban; n. 1044.

*Terminal and lateral leaflets* about equal, 12 cm. long, with acumen 1.5-2 cm., and nearly 6 cm. broad; basal lateral leaflets 6.5-8.5 cm. long with acumen 1-1.3 cm., and 3-4.5 cm. broad. *Terminal petiolule* 1.3 cm. long; petiole 10-15 cm. long. Main rachis of *inflorescence* over 20 cm. long, lateral branches 10 cm. or more long. *Pedicels* 2-4 mm. *Calyx* 2 mm. long, 3 mm. wide at the gaping mouth. *Corolla-tube* about 5 mm. long, bent almost at right angles at the middle, lower lip over 2 mm. long.

Near *V. thyrsoiflora* Baker, differing in the shape of the leaflets and characters of the inflorescence.

## MONOCHLAMYDEÆ.

By SPENCER MOORE, F.L.S.

## ARISTOLOCHIACEÆ.

*Aristolochia tribrachiata* S. Moore sp. nov. Planta *caule* volubili distanter folioso cortice griseo maxime rimoso obducto; *foliis* petiolatis amplis oblongo-ovatis basi rotundatis levissimeve cordatis trinerviis nitidulis coriaceis glabris; *cymis* subsessilibus paucifloris; *pedicellis* (cum ovario) floribus brevioribus; *bracteis* parvulis ovato-lanceolatis; *perianthii* extus glabri utriculo oblique ovoideo tubo anguste infundibulari utriculum paullo excedente intus sparsim piloso limbo inequaliter 3-loba lobis ovato-lanceolatis acuminatis quam tubus longioribus; *gynostemio* breviter stipitato; *staminibus stylisque* 9.

Oban; n. 1542.

Thick twining stem twisted and somewhat compressed. *Leaves*



(extremity not seen)  $15 \times 8.5$  cm., when dry green and shining; lateral nerves 4 pairs (including the basal pair), distant, inserted upon the midrib at about a right angle, strongly arcuate and anfractuose towards the margin, together with the reticulum flat or nearly so on the upper side and very prominent on the lower; petioles stout, nearly 3 cm. long. *Thick woody base of inflorescence* about 5 mm. in length. *Bracts* about 3 mm. long. *Pedicels* (with ovary) 2.5–4 cm. long. *Perianth*, according to Mrs. Talbot's drawing, yellowish-white on the outside, the lobes reddish-purple with white streaks; utricle 23–25 mm. long, 15–17 mm. broad; tube 27 mm. long, at bottom 6–8 mm., at top 10–12 mm. broad; longer lobes 48 mm. long, smaller third lobe 40 mm. *Stalk of gynostemium* 1.5 mm. long. *Anthers* oblong, 2.25 mm. long, the same length as the erect branches of the stigma.

To be inserted in the genus next *A. Staudtii* Engl., a species known to me by description only, which has smaller and narrower leaves and shorter stalks, differently coloured flowers with a longer and broader utricle, a longer tube and a longer stalk to the much larger gynostemium. The leaves serve to distinguish the plant at sight from *A. triactina* Hook. fil.

No. 213 with somewhat larger dull yellow purple-streaked perianth-lobes may be a form of this, but its leaves are unknown.

**Aristolochia Talbotii** S. Moore sp. nov. *Planta scandens caule* floresentis tempore nudo; *foliis* ignotis; *floribus* in fasciculis subsessilibus paucifloris ex ramis foliis destitutis oriundis; *pedicellis* (cum ovario) quam flores brevioribus puberulis; *perianthii* extus glabri utriculo obliquo ovoideo quam tubus deorsum cylindricus sursum infundibularis paullo brevior limbo brevi uno latere in caudam attenuatam perianthium ipsum excedentem exeunte; *gynostemio* breviter stipitato; *staminibus* necnon *stylis* 9. (Pl. 11, fig. 7.)

Oban; nn. 128, 2310.

*Stem*, according to Mrs. Talbot's drawing, about 1 cm. in diameter, here and there nodose, surrounded by a spirally twisted cortex. *Peduncles* about 5 mm. long and 3 mm. in diameter. *Pedicels* 3–4 cm. long. *Perianth* pale yellowish-green, with several dark longitudinal unbranched or rarely branching nerves, when dry dark brown or almost black; utricle  $20-22 \times 11-13$  mm.; tube 38 mm. long, in its lower half 10–12 mm. wide, expanding above to 26 mm., clothed inside with numerous reflexed black bulbous-based hairs and a row of ordinary hairs separating it from the utricle; limb emarginate at the side opposite to that from which the tail is given off, otherwise entire,  $25 \times 15$  mm.; tail  $\pm 10$  cm. long, nearly 9 mm. wide at its point of origin, immediately narrowing to .5 mm., and towards the tip expanding to 1 mm. or somewhat more. *Stalk of the gynostemium* 1.5 mm. long. *Anthers* oblong, 2 mm. long or a little more. *Branches of the stigma* incurved just below the acute tip, 1.5 mm. long.

Recognised on sight by its remarkable perianth, somewhat in the style of though abundantly diverse from that of *A. foetens* Lindl., and markedly smaller than that of *A. flagellata* Stapf.

Var. *longissima*. Cauda maxime elongata, saepe ternatim divisa, 20–25 cm. long, triente superiore usque ad 2–3 mm. diam. dilatata.

Oban; n. 1642.

The upper part of the perianth-tube of this supposed variety is more curved than that of type specimens, otherwise except for the very long tails there seems no difference. As with the type, no leaves of this are to hand. The perianth is very pale green in colour with dark purple spots, and the hairs in the throat are pure white. The single fruit sent consists of two oblong portions (apparently the two halves, though the ends do not quite match), each 10 cm. long and 3 cm. in diameter, deeply 6-sulcate and in colour a dark brown; the seeds are cordate, palely shining and 1 cm. long.

*Aristolochia tenuicauda* S. Moore sp. nov. Planta *perianthii* extus microscopice puberuli utriculo obliquo late ovoideo tubo inferne cylindrico superne curvato-infundibulari quam utriculus plane longiore limbo abbreviato uno latere tridentato dente utroque in caudam elongatam tenuissimam exeunte; *gynostemio* stipitato; *staminibus* 9; *stylis* 9.

Oban; n. 2318.

*Stem and leaves* not seen, but certainly a twiner. *Perianth* dark-coloured and leathery when dry, traversed by several longitudinal nerves, reticulum not very plainly seen; *utricle* 2·5 cm. long, 1·5 cm. broad, projecting beyond the narrower lowest part of the tube; tube arching above, inside pilose with white hairs, 4·5 cm. long, 10 mm. broad at the base, 14 mm. at the middle, and 30 mm. immediately below the limb, mouth emarginate at the end opposite to that bearing the tails, its three teeth about 2 mm. long, tails very slender up to 20 cm. long, about 3 mm. wide, but distally widening to about 1 mm. *Stalk of gynostemium* 2 mm. long. *Anthers* narrowly oblong, 3 mm. long. *Branches of stigma* with short incurved tails, nearly 3 mm. long.

Nearly allied to the last, but the perianth of *A. tenuicauda* is larger, the utricle more prominent, the upper part of the tube more curved, the mouth wider, the place of the single tail is always taken by the three slender tails, and the anthers and styles are longer.

## LAURINEÆ.

*Tylostemon* (§ *Ennearrhena*) *Talbotiae* S. Moore sp. nov. Frutex elatus *ramis* subteretibus glabris cortice cinereo circumdati; *foliis* amplis oblongo-ellipticis apice cuspidato-acuminatis ipso obtusis basi in petiolum brevem crassum canaliculatam angustatis glandulis immersis creberrime inspersis pergamaceis utrinsecus glabris vel fere glabris; *paniculis* extra-axillaribus subterminalibusve effusis minute subfulvo-pubescentibus ramulis pluribus oppositis alternisve ascendentibus vel patulis pedicellis ut ramuli filiformibus satis elongatis; *perianthio* pro rata majusculo turbinato

extus minute pubescente intus villosa quam lobi subrotundati obtusiusculi plane longiore; *staminum* serr. 1 & 2 filamentis antheris fere aequalis basi vix angustatis utrobique pubescentibus *staminum* ser. 3 filamentis quam antherae aequilongae paullo angustioribus villosis basi biglandulosis; *staminodiis* minutis linearibus villosis; *ovario* ut *stylus* glabro.

Oban; n. 1539.

*Leaves* at most 18–20 × 6–7 cm., sometimes 12–14 × 4–5 cm., greyish-green when dry below, brownish above; lateral nerves about 8 on each side of the midrib, with numerous interposed nerves of lower order all, together with the reticulum, prominent on both sides; petioles about 1 cm. long. *Panicles* at most 15 cm. long and 9 cm. broad, the peduncle frequently 3–5 cm. long, the branches anfractuose and usually 2–4 cm. long. *Bracts* subfugacious, lanceolate, minutely tawny-tomentose, 4 mm. long. *Pedicels* 2–6 (or even 7) mm. in length. *Perianth* green, 3 mm. long, of which 2 mm. belong to the tube; lobes 1 mm. long, 1·3 mm. broad. *Stamens* of the two outer whorls 1 mm. broad and rather more than that in length; extrorse stamens 1·5 mm. long, with filaments 1 mm. wide and somewhat broader anthers, the pale green glands nearly ·5 mm. in diameter. *Staminodes* difficult to find among the hairs of the inner side of the perianth, less than 1 mm. long. *Ovary* broadly ovoid, 1 mm. long. *Style* half as long again as the ovary, swollen in its lower part.

Near *T. longipes* Stapf, which has smaller leaves, a glabrous perianth, different stamens and staminodes and ovary as long as the style.

**Tylostemon** (§ Ennearrhena) *myrciaefolius* S. Moore sp. nov.

Frutex *ramis* subteretibus glabris cortice cinereo obductis; *foliis* petiolatis oblongo-ellipticis apice cuspidato-vel caudato-attenuatis ipso obtusis ima basi cuneatis tenuiter coriaceis utrinque glabris necnon nitentibus; *paniculis* extra-axillaribus quam folia plerumque brevioribus pedunculo brevi ramulis alternis nisi suboppositis patulis ut pedicelli alabastra aequantes vel breviter superantes glabris vel summum sparsissime puberulis; *bracteis* persistentibus; *perianthio* medioeri campanulato glabro lobis suborbicularibus subaequilongo; *staminum* serr. 1 & 2 filamentis late oblongis quam antherae longioribus dorso pubescentibus; *staminum* ser. 3 his subsimilibus basi biglandulosis; *staminodiis* cordatis apice acutis dorso-pubescentibus; *ovario* subgloboso quam *stylus* manifeste brevior glabro.

Oban; n. 2334.

*Leaves* usually 8–12 cm. long and 3·5–5·0 cm. broad, but occasionally as small as 5 × 2·5 cm., drying brownish or olive-green; lateral nerves about 6 on each side of the midrib, with numerous intervening nervelets almost as prominent as themselves, widely arching towards the leaf-margin, together with the reticulum prominent on both faces; petioles widely excavated on the upper side, 4 mm. long. *Panicles* about 7 cm. long and 5 cm. broad, with

peduncles 1 cm. or so long, and very slender branches of thrice that length. *Bracts* 2-3 mm. long, ovate or ovate-oblong, obtuse, minutely silky pubescent on the back. *Pedicels* usually 1-2 mm. long. *Perianth-tube* 1.25 mm. long; lobes 1.5 mm. ciliate. *Stamens* of the two outer whorls  $1.15 \times 0.8$  mm., of the extrorse whorl 1.15 mm. long, the glands at the base of these obovoid and nearly 1 mm. in length. *Staminodia* barely 1 mm. long. *Ovary* .5 mm. *Style* nearly 1 mm. long.

Allied to the last. It differs from *T. longipes* Stapf, *inter alia*, in the more shortly petioled shining conspicuously nerved leaves, the persistent bracts, the smaller flowers on shorter pedicels and the diverse stamens.

**Tylostemon** (§ *Ennearrhena*) **foliosus** S. Moore sp. nov. Frutex ramis subteretibus glabris cortice badio obductis; foliis mediocribus breviter petiolatis ellipticis utrinque obtusis coriaceis glabris; paniculis terminalibus nisi ex axillis summis oriundis quam folia multoties brevioribus e ramulis paucis patentibus sistentibus subtiliter fulvo-pubescentibus; bracteis satis perspicuis ovato-cymbiformibus acutis dorso minute fulvo-tomentosis; pedicellis flores plerumque aequantibus vel excedentibus; perianthii turbinati extus minute pubescentis intus fere glabri lobis quam tubus brevioribus suborbicularibus margine ciliolatis; staminum serr. 1 & 2 filamentis brevibus quam antherae suborbiculares deorsum necnon dorso villosae angustioribus; staminum ser. 3 filamentis latis villosis antheras conoideas glabras circa aequantibus biglandulosas; staminodiis triangularibus acutis villosis; ovario subgloboso glabro quam stylus glaber crassus apicem versus attenuatus paullulum brevior.

Oban; n. 2342.

A bushy shrub. *Leaves* 12-18  $\times$  3-4 cm., drying olive-green above and brown below; lateral nerves 7-8 pairs, dividing and inarching at some little distance from the midrib, together with the reticulum prominent on both sides of the leaf; petioles about 1 cm. long, stout, channelled above, drying black. *Panicles* 1-3 cm. long, from less than 1 cm. to nearly 4 cm. across, the latter measurement referring to the terminal inflorescence. *Bracts* 3-4 mm. long. *Pedicels* often 3-4 mm. in length, those of flowers at the top of the branchlets often reduced to 1 mm. *Flowers* 2 mm. long, and the same in diameter; tube 1.25 mm., lobes .75 mm. long. *Stamens* of whorls I. and II. not quite 1 mm. long, of the third whorl 1 mm.; glands of the latter small, about .2 mm. in diameter. *Staminodes* .8 mm. long. *Ovary* about .75 in diameter. *Style* 1 mm. long.

In foliage this is very like *T. obscurus* Stapf, but that has markedly smaller flowers, besides belonging to the § *Hexarrhena*. Its position in the genus seems to be next *T. cinnamomeus* Stapf.



## EUPHORBIACEÆ.

**Drypetes obanensis** S. Moore sp. nov. *Arbuscula ramulis* gracilibus subteretibus crebro foliosis minute pubescentibus; *foliis* breviter petiolatis ovato-oblongis vel lanceolato-ovatis apice cuspidato-acuminatis ipso obtusis basi obliquis obtusis raro rotundatis margine dimidio superiori distanter serrulato-denticulatis tenuiter coriaceis glabris nitidulis costis lateralibus utrinque 4-6 (raro 7) aperte arcuatis costulis intermediis satis prominulis pluribus; *florum* fasciculis ramulis vetustioribus insidentibus floribus masc. solummodo cognitis pedicellis abbreviatis suffultis; *sepalis* 5 late imbricatis suborbicularibus margine ciliolatis ceteroquin glabris; *staminibus* circa 14 filamentis quam antherae longioribus; *disco* rugoso.

Oban; nn. 677, 2310.

A small tree. *Branchlets* patent or erecto-patent, 1-2 mm. in diameter. *Leaves* mostly 6-10 cm. long, 2.5-4.0 cm. broad, occasionally reaching 11.0 × 5.5 cm., or reduced to 5.0 × 1.5 cm or even less, greenish-grey when dried, the midrib very prominent on the underside and flat or almost so above; petioles about 5 mm. long, like their supporting branchlets covered with a brown pubescence. *Fascicles of flowers* about 1 cm. in diameter. *Pedicels* stoutish, at most barely 3 mm. long. *Sepals* 3.5 × 3 mm. *Filaments* 2 mm. long, *anthers* 1 mm. *Disk* 3 mm. in diameter.

So far as clavis characters go, this comes near *D. spinoso-dentata* Hutchins. and *D. minor* Hutchins., of which both have leaves diverse in size, shape and toothings, as well as much larger flowers.

**Drypetes Talbotii** S. Moore sp. nov. *Arbor ramulis* subteretibus crebro foliosis cortice fusco longitrorsum rimoso mox circumdatis; *foliis* breviter petiolatis elongatis late oblongis apice cuspidato-acuminatis ipso obtusis obtusiusculisve basin versus aliquanto angustatis basi obtusissimis levissimeve cordatis margine integris coriaceis glabris costis lateralibus utrinque ultra 20 additis costulis numerosis sibi ipsis fere aequae spectabilibus costa centrali pag. sup. impressa pag. inf. optime prominente; *floribus* ad nodos ramorum defoliatorum fasciculatis; *pedicellis* filiformibus quam flores longioribus; *florum* masc. *sepalis* 5 aestivatione late imbricatis rotundato-ovatis obtusissimis; *staminibus* 11-13 filamentis sepalis fere aequilongis; *antheris* ovato-oblongis quam filamenta manifeste brevioribus; *disco* plano; *floribus* fem. haud visis.

Oban; n. 8.

*Leafy branches* about 4 mm. in diameter. *Leaves* 18-23 cm. long, 5-6 cm. broad, grey-green, somewhat shining; petioles stout, 5 mm. long. *Pedicels* 8 mm. long. *Sepals* 3.5-4 × 2.5-3 mm. *Filaments* 3 mm. long. *Anthers* scarcely 1.5 mm. *Disk* 2 mm. in diameter.

To be inserted next to *D. Afzelii* Hutchins., a species of which the male flowers are unknown. The leaves of the two are manifestly different.

## MONOCOTYLEDONS.

By DR. A. B. RENDLE, F.R.S. (excepting Zingiberaceae  
by H. N. RIDLEY, C.M.G., F.R.S.).

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## ORCHIDACEÆ.

The collection contains seventy species, of which twenty are new. Their affinity is almost exclusively West Tropical African, and as might be expected a large proportion occur also in the Cameroons, seventeen species being hitherto known only from that area. Among these is the genus *Auxopus* recently described by Dr. Schlechter from a single locality. Nineteen species have a wider distribution through the region bordering on the Gulf of Guinea from Sierra Leone to Gaboon, including Prince's Island and the Island of St. Thomas; *Habenaria barrina* Ridl. has hitherto been known only from St. Thomas. A smaller number, seven, are more generally West Tropical African, extending southwards to the French Congo or Angola.

*Platanthera hellebrina* Rolfe and *Habenaria procera* Lindl. are interesting additions, being previously recorded only from Sierra Leone, the latter known apparently only from Lindley's figure (Bot. Reg. t. 1858), with which the Nigerian specimen agrees. Two of the new species belonging respectively to *Bulbophyllum* and *Habenaria* have also been sent from Liberia by Mr. R. H. Bunting.

It is with much regret that I have felt compelled to quote the species of *Listrostachys* and *Mystacidium* under *Angraecum*. Dr. Schlechter has recently given repeated instances of cases where the affinity deduced from general characters is at variance with that deduced from the single character of the pollinia and their appendages; species obviously closely allied must be artificially separated on this criterion. The multiplicity of names borne by many of the species is an indication of the unsatisfactory nature of the system which continues to maintain this distinction. An example is afforded by the species which I originally described as *Listrostachys clavata*; the pollinia were attached by their caudicles to a single gland, which, however, being easily separable into two parts, was on this account referred by Mr. Rolfe to *Mystacidium*. More recently Dr. Schlechter, in describing a new species, *Angraecum affine* (in which the two pollen-stalks are attached to a common gland), mentions as its nearest ally the

species in question, which he calls *A. clavatum*. Unfortunately the trivial is already occupied in *Angraecum*, so a new one must be found for my original plant. I have suggested *multinominatum*.

**Bulbophyllum Buntingii** Rendle sp. nov. *Planta pseudobulbis* rhizomate lignoso tereti repente inter se distantibus compresso-ovoideis triangulatis monophyllis; *foliis* oblongis super basin angustatis valde obtusis; *scapo* folia valde excedente pro majore parte florifero internodiis inferioribus (5) bracteis scariosis ocreiformibus vaginatis; *bracteis* florentibus scariosis ascendentibus ovato-lanceolatis acutis ovarium excedentibus; *floribus* albis breviter pedicellatis; *sepalis* subaequalibus lanceolatis acuminatis, lateralibus basi in mentum breve obtusum protractis; *petalis* parvulis elliptico-lanceolatis acutis; *labello* parvo crasso elliptico, lateribus super basin latam usque ad partem anteriorem ovatam acuminatam reversis, disco callis geminis obtusis medio instructo; *columna* dentibus 2 erectis ipsi subaequalibus instructa. (Pl. 12, figs. 1-3.)

Oban; n. 935. Liberia, Begwai; *R. H. Bunting*; in flower Oct. 25.

*Rhizome* tough, 2 to nearly 3 mm. thick, bearing the pseudobulbs at somewhat regular intervals of about 2 cm. *Pseudobulbs* 1.5-2 cm. long, 1.5 or less in thickness. *Leaves* to 7 cm. long, 1.5-1.8 cm. broad. *Scape* 15-22 cm. long, sheathing bracts about 1 cm. long. *Raceme* 13-20 cm. long. *Flowering bracts* 4-5 mm. long. *Sepals* 5 mm. long. *Petals* 2.5 mm.; lip barely exceeding 2 mm., the recurved margin flattened anteriorly and folded downwards posteriorly to join the subquadrate base, which narrows abruptly into a short stalk. *Column* .5 mm. long.

Near *B. flavidum* Lindl., but distinguished by its somewhat remarkable lip-structure.

**Bulbophyllum nigritianum** Rendle sp. nov. *Herba epiphytica pseudobulbis* anguste-ovoideis approximatis monophyllis siccis flavidis; *radicibus* tenuibus intertextis; *foliis* linearibus apice obtusiusculis basi attenuatis scapum excedentibus; *scapo* tenui super basin brevem vaginatam florifero flexuoso vel arcuato; *bracteis* membranaceis siccis albidis ovato-lanceolatis subacutis ovario cum pedicello subaequilongis; *floribus* parvis siccis stramineis; *sepalis* subaequalibus triangulari-lanceolatis acuminatis, lateralibus latioribus; *petalis* parvulis elliptico-oblongis obtusis; *labello* parvulo recurvato oblongo obtuso, lobis lateralibus suberectis obtusis basi instructo; *columna* breve dentibus binis acuminatis erectis instructa. (Pl. 12, figs. 4, 5.)

Oban; n. 933.

*Rhizome* hidden by the crowded pseudobulbs and the mass of slender roots. *Pseudobulbs* 2-2.5 cm. long, 1 cm. or less in diameter. *Leaves* to 12.5 cm. long, .5-.6 cm. broad. *Scape* to 10 cm. long, bracts 2.5-3 mm. long. *Sepals* 4-4.5 mm. long, dorsal 1 mm.

broad, lateral 1·25 mm. *Petals* 1·2 mm. long; lip 1 mm. long. *Column* barely 1 mm. long, teeth barely ·5 mm. long. *Ovary* and *pedicel* subequal, together 2·2·5 mm. long.

Near *B. flavidum* Lindl. from Sierra Leone, but distinguished by the long narrow leaves, characters of the lip, &c.

**Bulbophyllum Talbotii** Rendle sp. nov. *Planta* epiphytica rhizomate tereti super radices tenues dense intertextas divaricate ramoso; *pseudobulbis* frequentibus vivis fusiformibus siccis tenuibus rugosis diphyllis; *foliis* lineari-oblongis obtusis; *scapo* saepe tenue cum spica dense et distiche florifera folia excedente, internodiis c. 10 bracteis pro maxima parte arete vaginatis; *bracteis* floriferis magnis cymbiformibus acutis purpureo-tinctis flores primum celantibus demum flore aperto explicatis; *floribus* parvis; *sepals* roseis lanceolato-acuminatis 3-nerviis subaequalibus; *petalis* linearibus minutis; *labello* atrate-roseo mobili e basi anguste cordata lineari subacuto margine dense ciliato; *columna* brevi crassa processibus aequilongis erectis apice instructa. (Pl. 12, figs. 6, 7.)

Oban; n. 931; in flower Dec. 11.

*Rhizome* bent sharply at the origin of each pseudobulb, the segments 1·1·5 cm. long, 2 mm. or more thick, spreading over the matted slender branching roots; *pseudobulbs* 3·7·5 cm. long, much shrivelled and slender when dry. *Leaves* 5·10 cm. long, ·7·1 cm. broad. *Scapo* 8·13 cm. long to base of spike, from less than 1·1·5 mm. thick. *Spike* 3 to more than 10 cm. long, ultimately reflexed. *Flowering bracts* 6·7 mm. long. *Sepals* 4 mm. long. *Petals* 1·2 mm. long; lip 3·3 mm. long, becoming violently agitated when the flower is touched. *Column* ·3 mm. long, narrow pointed processes from the upper angles 3 mm. long.

Allied to *B. Manni* Hook. fil. (Cameroon Mts.), of which it suggests a small edition, being smaller in all its parts. Also near *B. gravidum* Lindl. (Fernando Po), but differs in its longer, narrower spike, smaller flowers, linear lip, &c.

**Bulbophyllum Dorotheae** Rendle sp. nov. *Herba* semipedalis *pseudobulbis* compresso-ovoideis 3-angulatis flavidis aggregatis monophyllis; *foliis* oblongis basi breviter angustatis obtusis; *scapo* gracili curvulo pro maiore parte ( $\frac{2}{3}$ ) bracteis ocreiformibus acutis laxo vestito, racemo haud densifloro; *bracteis* oblongis vel ellipticis obtusis ovarium cum pedicello paullo excedentibus haud reflexis; *floribus* subsessilibus atrate roseis (e spec. sicco); *sepalo* dorsali oblongo-lanceolato obtuso, sepp. lateralibus triangulari-falcatis angustiore; *petalis* oblongo-spathulatis; *labello* crassiusculo lanceolato valde recurvato margine quam parte centrali tenuiore et ciliolato; *columna* valida brachiis erectis geminis lineari-subulatis instructa; *capsula* oblique-ellipsoidea. (Pl. 12, fig. 8.)

Oban; n. 934.

*Pseudobulbs* reaching 2 cm. high by 1·2 cm. in diameter, densely



crowded on the rhizome. *Roots* dense slender, branching. *Leaves* 4·5–9 cm. long, 1·4–2·2 cm. broad. *Scape* to 16 cm. long, less than 1 mm. thick, bearing at the five nodes below the inflorescence narrow sheathing bracts 1–·5 cm. long. *Raceme* 5 cm. long. *Flowers* (in one specimen) seventeen. *Bracts* 2–2·5 mm. long. *Sepals* 3·5 mm. long, the dorsal 1·5, the lateral 2 mm. broad, the broad united base of the latter forming a blunt chin; the margin minutely papillose. *Petals* 2 mm. long by ·6 mm. broad; lip 1·75 mm. long, barely 1 mm. broad. *Column* ·5 mm. long, the slender arms ·75 mm. long. *Stalk* with *ovary* barely 2 mm. long. *Fruit* 8 mm. long.

Evidently near the Congo species *B. nanum* De Wild. (from the description) which it apparently resembles closely in habit, but differs in absolute and relative sizes of the sepals and petals and in the form of the lip.

***Bulbophyllum obanense* Rendle sp. nov.** *Planta minor pseudobulbis* (in vivo) anguste ellipticis sulcatis diphyllis, in rhizomate valido rubescente distantibus, cataphyllis scariosis supra medium circumtectis; *foliis* lineari-oblongis basi in petiolum angustatis obtusis; *scapo* folia paullo excedente, bracteis brevibus specimine 5 rubescentibus e basi vaginante ovatis; *spicæ* rhachide compressa floribus ochroleucis in marginibus tenuibus distiche ordinatis; *bracteis* concavis dorso carinatis mucronulatis floribus brevioribus; *sepalis* triangulari-ovatis acuminatis, dorsali paullo brevioribus; *petalis* linearibus; *labello* crasso glabro trilobo, lobis basalibus rotunde oblongis, lobo medio late oblongo recurvo margine crispulo, carina obtusa mediana usque ad basin lobi medii instructo; *columna* brevi crassa dentibus 2 obtusis instructa. (Pl. 12, figs. 9, 10.)

Oban, top of Niaji Peak; n. 932; in flower Oct. 28.

Described from a single specimen 1·7 cm. high and a coloured sketch. Distance between pseudobulbs 6–7 cm., rhizome bearing reddish sheathing scales at the node, woody, 3 mm. thick; a tuft of slender filiform roots from the base of each pseudobulb. *Pseudobulb* 3–4·5 cm. long, 1·2 cm. thick (when fresh). *Leaves* 6–11 cm. long, 1·2 to nearly 2 cm. broad. *Scape* 10–13 cm. long to base of spike. *Bracts* 6–7 mm. long. *Spike* 6 cm. long, rhachis 2–3 mm. broad. *Flowering bracts* 4 mm. long. *Dorsal sepal* barely exceeding 5 mm. long; lateral 5·75 mm. *Petals* 3·5 mm.; lip 2·25 mm., greatest breadth equal to length; median lobe 1 mm. broad, with a raised line just within the margin. *Column* 1·3 mm. long.

Evidently very closely allied to the Congo species, *B. platirachis*, described and figured by De Wildeman (Miss. Em. Laurent, 223, t. lv.), which it resembles in habit, but is a larger plant and differs in the absolute and relative length of the parts of the flower. *B. obanense* is characterised by its 3-lobed lip, but the details of the lip of *B. platirachis* are not described.

***Bulbophyllum Amauryæ* Rendle sp. nov.** *Planta parva epiphytica pseudobulbis* ovoideis dense aggregatis monophyllis; *folio* lineari utrinque attenuato obtusiusculo vel breviter acuto; *scapo* filiforme folia duplo excedente parte inferiore bracteis

4 tubuliformibus distantibus instructo superne flexuoso et florifero; *bracteis* ovato-acuminatis scariosis pedicellum brevem cum ovario paullo excedentibus; *sepalis* triangulari-caudato-acuminatis; *petalis* ellipticis apiculatis; *labello* e basi hastato-cordata anguste oblongo-triangulari acuminato margine ciliolato, disco jugis binis superne convergentibus instructo; *columna* brevi processibus binis subulatis instructa. (Pl. 12, figs. 11, 12.)

Oban; n. 952.

*Pseudobulbs* 5 cm.—7 cm. long on the nodes of a slender branching raceme forming a caespitose mass. *Leaves* 5–8 cm. long, 3.5–4 cm. broad. *Scapes* to 13 cm. long, with 3–4 distant tubuliform bracts below and bearing up to about ten flowers on the upper zigzag portion. *Flowering bracts* about 2 mm. long. *Sepals* 3 mm. long; the lateral 1.5 mm. broad at the base; the dorsal just over 1 mm. *Petals* 2 mm. long by .8 mm. broad; lip 2.25 mm. long by 1.25 mm. broad at the base. *Column* barely 1 mm. long, bearing a pair of long subulate processes.

Near *B. intertextum* Lindl. (Niger Delta) and *B. viride* Rolfe (Sierra Leone), but distinguished at once by the long narrow linear leaves, and also by minute floral details.

**Polystachya obanensis** Rendle sp. nov. *Rhizoma* lignosum flexuosum complanatum ascendens, radicibus numerosis et pseudobulbis marcescentibus seriatim approximatis instructum; *pseudobulbo* compresso 4-angulato binodo, quoque folium singulum anguste oblongum saepissime basin versus angustatum et scapum terminale gerente; *inflorescentia* puberula basi bractea membranacea apice subacuta arete vaginata superne laxe ramosa, bracteis superioribus e basi ovata longe acuminatis; *floribus* siccis luteis puberulis; *sepalis* dorsale anguste elliptico acuto 3-nervio, sepp. lateralibus triangularibus acutis mentum obtuse obconicum efformantibus; *petalis* lineari-oblancoelatis acutis; *labello* e basi unguiculata trilobato, lobis lateralibus brevibus rotundatis, lobo medio suborbiculari apiculato disco incrassato; *columna* brevi crassa. (Pl. 13, figs. 1, 2.)

Oban; n. 930.

*Plant* 20–25 cm. high. *Rhizome* 4–5 mm. broad to 12 cm. long in the specimens collected, internodes 1.5–2 cm. long. *Pseudobulbs* 3.5–4 cm. long, to 1.5 cm. broad, enveloped below by the persistent leaf-sheaths, and bearing its leaf a little below the apex. *Leaf* 8.5–14 cm. long, 1.3–2 cm. broad. *Peduncle* 4.5–5.5 cm. long; sheathing bract 2–3 cm. *Panicle* 6–11 cm. long, usually with two branches. *Fertile bracts* 5–6 mm. long. *Dorsal sepal* 6.5–7.5 mm. long, 2.5–2.6 mm. broad; lateral seps. 7.5–8.5 mm. long; chin 4 mm. long. *Petals* 6–6.5 mm. long, 1.5 mm. broad; lip 7.5 mm. long, 6 mm. broad, with an upwardly broadening thickening from the base to a little below the middle, and a central thickening on the apical lobe. *Column* 2 mm. long.

Apparently near *P. epiphytica* De Wild. (from Katanga), but distinguished by its larger flowers and lip-characters.

**Polystachya Dorotheae** Rendle sp. nov. Caules subcompressae approximatae basi paullo inflatae et vaginis scariosis circumdatae; *foliis* caulinis 4 e vaginis elongatis tubuliformibus lineari-oblongis vel lineari-ob lanceolatis apice inaequali acutiusculis; *scapo* elongato bracteis scariosis parte inferiore tubuliformibus arete vestito superne nudo et puberulo ramoso, ramis multifloris; *bracteis* florentibus ovatis superne acuminatis et recurvatis; *floribus* inter mediocres glabri; *sepalo* dorsale elliptico-oblongo obtuso mucronato, sepp. lateralibus triangulari-oblongis subito et breviter acutis mentum obtusum efformantibus; *petalis* linearibus apice spathulatis; *labello* trilobo basi cum crista mediana suffulto, lobis lateralibus late oblongis apice rotundatis margine integro, lobo mediano lato emarginato crenulato medio cristato; *capsula* subsessili fusiformi. (Pl. 13, figs. 3, 4.)

Oban; n. 861.

*Plant* 6 cm. high. *Stem* leafy below, passing above into the panicle. *Leaves* 10–30 cm. long, 2–3 cm. broad. *Panicle* 18 cm. long, branches (in fruit) to 8.5 cm. long. *Flowering bracts* 3 mm. long. *Dorsal sepal* 4.5 mm. long; lateral sepals, greatest length 7 mm., chin 4.5 mm. *Petals* 4.5 mm. long, broadening at the apex to .7 mm.; lip 6 mm. long, greatest breadth 4.5 mm. *Column* short, thick, 2 mm. long. *Fruit* 17–18 mm. long.

A member of the *tessellata* group of species, and from the description and figure near the Congo species *P. Huygheii* De Wild., but distinguished by details of the flower such as blunt dorsal sepal and lip-lobe, spathulate petals, &c.

**Polystachya nigerica** Rendle sp. nov. Species inter minores caulibus compressis basi in pseudobulbum fusiformem incrassatis; *foliis* distichis a vagina compressa siccis sejunctis, lamina e basi plicata ligulata apice inaequali obtusa emarginata; *scapo* supra folia bracteis binis compressis spathaeformibus vestito puberulo densifloro; *bracteis* florentibus e basi triangulare setaceis flores excedentibus saepe reflexis; *floribus* parvis glabris breviter pedicellatis; *sepalo* dorsali late ovato concavo acuminato, sepp. lateralibus triangulari-ovatis breviter caudatis, mento late rotundato; *petalis* lineari-acutis; *labello* trilobo lobis lateralibus rhomboideis erectis, lobo mediano ovato-acuminato; *columna* brevi crassa, rostello dentibus binis acutis instructo. (Pl. 13, figs. 5–9.)

Oban; n. 929.

*Stems* 10–17 cm. high, surrounded at the base by a mass of slender roots, and often associated with the persistent remains of stems of previous seasons. *Leaves* 4–11 cm. long, 9–13 mm. broad, separating from the persistent sheaths when dried. *Raceme* to 7 cm. long, or more. *Flowering bracts* to 8 mm. long. *Dorsal sepal* 2.5–2.75 mm. long; lateral sepals 3.5 mm. long, length of base 2.5 mm. *Petals* 2.5 mm. long; lip 2.6 mm. long; lateral lobes 1.5 mm. long; mid-lobe 1.75 mm. long. *Column* 2.5 mm. long. *Ovary* with *pedicel* glabrous, 3 mm. long.

Near *P. polychaete* Kränzl., but a smaller plant with larger flowers, which differ in having tailed sepals, linear petals, and in the characters of the lip.

*Polystachya seticaulis* Rendle sp. nov. Herba parvula caulibus filiformibus pluribus in rhizomate brevi aggregatis, rhizomate radicibus densis intertextis celato, caule supra basin vaginis scariosis vestitam foliato; *foliis* saepe 3 suberectis e vagina basi anguste tubuliforme linearibus, apice mucronatis; *racemo* brevi paucifloro valde supra folia eminente; *bracteis* approximatis concavis e basi lata triangulari-ovatis acutis; *flöre* (unus solum exstat) minuto luteo (?) breviter pedicellato; *sepalo* dorsali concavo elliptico acuto, sepp. lateralibus transverse extensis oblique ovatis acutis carinulatis, basi in mentum latum rhomboideum obtusum productis; *petalis* parvulis late ellipticis; *labello* indiviso e basi attenuata rhomboideo obtuso; *columna* brevi crassa late alata; *anthera* superne rotundata antrorsum rostrata; *capsula* ellipsoidea. (Pl. 13, figs. 10-12.)

Oban; n. 926.

*Plants* 5-9 cm. high. *Leaves* jointed with the sheath about 2 cm. long, 1.5 mm. broad; mid-vein conspicuous on the lower face. *Raceme* to 1 cm. long, sometimes with a short branch from the thread-like basal bract. *Flowering bracts* 1 mm. long. *Dorsal sepal* 1 mm. long; *lateral* 1 mm. long, 2.3 mm. broad; *chin* equal to dorsal sepal. *Petal* .75 mm. long; *lip* 1.75 mm. long, just over 1 mm. broad. *Column* .5 mm. long. *Capsule* 4 mm. long.

A very distinct little species.

*Angraecum obanense* Rendle sp. nov. Planta caule scandente internodiis basibus foliorum persistentibus occultis; *foliis* anguste cuneato-oblongis apice inaequaliter bilobis; *racemis* brevibus subrigidis axillaribus (interdum geminis) basin folii penetrantibus multifloris; *bracteis* brevibus amplexicaulibus truncatis; *floribus* minutis; *sepalo* dorsali elliptico truncato obsolete apiculato, sepp. lateralibus paullo angustioribus ellipticis obtusis supra medium carinatis apice incrassatis dorso sparse furfuraceis; *petalis* orbicularibus; *labello* oblato breviter apiculato, calcare brevi inflato velut ovario sparse furfuraceo; polliniorum stipite singulo (?); rostello lineari inflexo. (Pl. 14, figs. 1, 2.)

Oban; n. 896.

*Stem* broken off above, 3 mm. thick, fixed by long roots which pierce the leaf-sheaths; internodes barely 1 cm. long. *Leaves* 7.5-9 cm. long, 1.5 to nearly 2 cm. broad. *Racemes* about 2 cm. long. *Bracts* barely 1 mm. long. *Dorsal sepal* 2.2 × 1.35 mm.; *lateral sepals* 2.2 × 1.1 mm. *Petals* 1.6 mm. long and broad; *lip* spreading, 1.35 mm. long, 3 mm. broad; *spur* 2 mm. long, 1 mm. thick. *Ovary* with *pedicel* 2.5 mm. long.

In habit this species recalls *A. lepidotum* Reichb. f., but differs in the more elongated racemes, suggesting rather those of *A.*



*clavatum* Rolfe; the minute flower with the short spur is also distinctive.

**Angraecum muriculatum** Rendle sp. nov. *Planta pendens* (?) caule elongato ramoso foliato basi radicibus cinerascens dense muriculatis affixo, internodiis vaginis persistentibus occultis; *foliis* brevibus lineari-oblongis apice inaequaliter bilobis; *racemis* probabiliter brevibus vaginas basi penetrantibus; *sepalis* late oblongis acutis 4-nerviis, lateralibus basi obliqua sub calcare connatis; *petalis* lineari-oblongis acuminatis 3-nerviis; *labello* petalis subaequilongo basi incrassato et lobis minutis lateralibus dentiformibus instructo, lobo medio anguste triangulari-acuminato; *calcare* longo filiformi; *columna* brevi crassa; *rostello* producto superne angustato et apice bifido. (Pl. 14, figs. 3-5.)

Oban; n. 904.

The somewhat stout widely branching *stem* is attached on the lower portion by numerous stoutish branching roots, the surface of which is densely covered with minute whitish papillæ. *Stem* and *branches* are incomplete in the specimen (a somewhat withered one); the main axis measures 4.5 dm. *Internodes* barely 1.5 cm. long, about 4 mm. thick. *Leaves* 5-6.5 cm. long, 7-9 mm. broad. The *flowers* are described from a few detached specimens; no trace of the inflorescence remains except the basal attachment penetrating the leaf-sheath. *Sepals* 7 mm. long, barely 3 mm. broad. *Petals* 6.5 mm. long, 1.5 mm. broad just above the slightly dilated base; lip 6.5 mm. long, consisting mainly of the middle lobe, 1.5 mm. broad; spur 3 cm. long. *Column* 1.75 mm. long. *Ovary* and *pedicel* 7 mm. long.

Closely allied to *A. lepidotum* Reichb. f. (Liberia, Lagos, Niger Delta and Congo), but distinguished by its slightly more slender stems, narrower leaves, and larger flowers with a much longer spur.

**Angraecum brunneo-maculatum** Rendle sp. nov. *Herba* parva epiphytica caule brevi e rhizomate lignoso oriundo; *foliis* confertis distichis coriaceis lineari-angustatis acutis apice bilobo lobo altero longissimo acuto; *floribus* parvis externe brunneo-furfuraceis in racemis brevibus axillaribus congestis; *bracteis* conspicuis coriaceis ovatis acutis flores juveniles tegentibus; *sepalis* crassiusculis, sep. dorsali lanceolato acuto, sep. lateralibus oblique rhomboideis apice triangulari acutis dorso carinatis; *petalis* lineari-oblongis obtusis; *labello* crassiusculo trilobo, lobis lateralibus late obtusis erectis, lobo mediano late rotundato marginibus crispulatis siccis inflexis, calcare brevi crasso geniculato; polliniis caudiculæ simplici attenuatae affixis, glandula lineari-oblonga; rostello elongato angusto apice abrupte inflexo. (Pl. 14, figs. 6-9.)

Oban, Ekong Ndingane Road; n. 943; in flower May.

Described from a single specimen. The *stem*, 2.5 cm. long, is attached to a stout contracted rhizome bearing long sparsely branching roots, and is quite hidden by the closely overlapping persistent leaf-

bases, the edge of which is scarious and pale brown. *Leaves* dark green to 17 cm. long by .5 cm. broad. *Racemes* about 1 cm. long; *bracts* 4-5 mm. long. *Flowers* white spotted on the outside (backs of sepals, venter of lip, spur and ovary) with dark brown scale-like hairs. *Dorsal sepal* 2.7 mm. long, lateral sepals 3.5 mm. long by 1.7 mm. *Petals* of much thinner texture than sepals, 2.75 mm. long; lip 4 mm. long from the base of the spur, white with a bright green patch on the tip of the side lobes, spur transparent green, 2.5 mm. long. *Column* 1.6 m. long; caudicle 1.5 mm. long, gland 1.25 mm.

Near *A. clandestinum* Lindl., which it resembles in the general structure of its flowers; the flowers are, however, only about half the size of those of *A. clandestinum*, which, moreover, has ensiform leaves.

**Angraecum Straussii** Schlechter. Oban; n. 940. Previously collected by A. Strauss near Moliwe in the Cameroons. The leaves in the Nigerian plants are larger than in the type, reaching 14 cm. long by .7 cm. broad. A sketch by Mrs. Talbot shows them as much as 1.2 cm. broad. The colours of the flowers, as noted by Mrs. Talbot, are: sepals and petals white, lip cream with bright green marks at the base of the disc, pedicel and ovary pale brown with minute spots of darker brown.

**Angraecum angustipetalum** Rendle sp. nov. *Planta caule compresso vaginis foliorum persistentibus vestito; foliis lanceolatis vel oblongo-lanceolatis apice bilobo lobo altero longissimo acuminato; pedunculis tenuibus unifloris (?) quoque vaginam folii penetrante et basi bractea brevi tubuliforme instructo; floribus longius pedicellatis, pedicello filiforme; sepalis lineari-acuminatis 5-nerviis; petalis e basi latiore angustissime lineari-acuminatis (siccis filiformibus); labello ovato acuto; calcare ab ore lato gradatim angustato medio filiforme deinde gradatim inflato; columna crassa.* (Pl. 14, figs. 10-12.)

Oban; n. 890.

The specimen consists of several detached shoots, the longest 14 cm. *Internodes* about 1.2 cm. long, the compressed almost keeled leaf-sheaths to .6 cm. broad; *leaves* 7.5-9 cm. long, 1.2-2.2 cm. broad. *Peduncles* 1-1.3 cm. long; *pedicels* with *ovary* about 2 cm. *Sepal* about 2 cm. long by 2 mm. broad, the dorsal slightly exceeding the lateral; *petals* as long as the lateral sepals, less than .5 mm. broad at the middle; lip 1.8 cm. long by 7 mm. broad; spur 2 cm. long, 2 mm. in diameter below the mouth; 1-1.25 mm. at the inflated apex.

A distinct species allied to and recalling in habit *Angraecum astroarche* Ridl. from the Island of St. Thomas, but with much smaller flowers, resembling more in size those of *A. verrucosum* Rendle from Mt. Milanji, Nyassaland. The slender almost thread-like petals are very characteristic. Also closely allied to *Mystacidium angustum* Rolfe from Old Calabar, which, however, has a differently shaped lip.

**Angraecum Egertonii** Rendle sp. nov. Planta caulescens radicibus tenuibus; *caule* compresso vaginis foliorum persistentibus vestito; *foliis* siccis membranaceis patentibus planis ovatis vel oblongo-ovatis apice breviter et inaequaliter bilobis; *racemis* tenuibus axillaribus 2-3-floris, pedunculo filiformi bracteis 1-2 tubuliformibus brevibus obtusis instructo; *bracteis* floriferis ovatis acutis; *sepalis* lanceolatis acuminatis incomplete 7-nerviis; *petalis* lineari-angustatis acutis subfalcatis; *labello* integro ovato breviter apiculato concavo, carina mediana instructo, inferne in calcar patens transgrediente; *calcare* superne infundibuliforme medio tenui apice clavato; *columna* brevi crassa superne late auriculata. (Pl. 15, figs. 1, 2.)

Oban; n. 889.

*Stems* 10-22 cm. long; *internodes* about 8 mm. long, with enveloping sheath 2-3 mm. broad. *Leaves* 2.5-4 cm. long, 1.3-1.8 cm. broad. *Racemes* about 3 cm. long; *lower bracts* 2.5-3 mm. long; *flowering bracts* 3-3.5 mm. *Flowers* membranous when dry; *sepals* 9.5 mm. long by barely 2.5 mm. broad. *Petals* barely 8.5 mm. long by 1.5 mm. broad; lip as long as the petals, with a low keel running for about half the distance from the middle towards the base; spur 6.5 mm. long.

Of the same circle of affinity as the last species (*A. angustipetalum*), but differs in its short broad leaves and smaller flowers. Evidently closely allied (from the description) to *A. affine* Schlechter from the Cameroons, which, however, has larger oblong-ligulate leaves.

**Angraecum multinominatum** nom. nov. The synonymy of this species is as follows:—*Listrostachys clavata* Rendle in Journ. Bot. xxxiii. 251 (1895); *Mystacidium clavatum* Rolfe in Flor. Trop. Afr. vii. 172 (1897); *Angraecum clavatum* Schlechter in Engler, Bot. Jahrb. xxxviii. 20 (1905), non Rolfe op. cit. 145.

**Angraecum Dorotheae** Rendle sp. nov. Planta caule lignoso radicibus crassiusculis frequentibus scandente; *foliis* coriaceis multinerviis cuneato-oblongis vel cuneato-ligulatis plus minusve falcatis apice asymmetrice acutis; *racemis* numerosis axillaribus (saepe geminis) folia aequantibus vel longioribus paene ad basin floriferis; *bracteis* brevibus truncatis amplexicaulibus; *floribus* siccis pallidis inter minores; *sepalo* dorsali elliptico-lanceolato acuto 3-nervio vix carinato, sepp. lateralibus dorsali similibus apice crassiusculis minute cucullatis dorso carinatis; *petalis* oblongo-lanceolatis subacutis sub medio 3-nerviis; *labello* late ellipsoideo valde apiculato integro margine crispulo, ore anguste infundibuliforme in calcar curvulum tenue sub medio leviter incrassatum transeunte; *columna* crassa, rostello producto apice bifido. (Pl. 15, figs. 3-5.)

Oban; nn. 914, 915.

Apparently a showy plant; the stout woody stem reaching .5 cm.

thick is attached by numerous distichously spreading branched roots, which penetrate the covering of the short persistent sheathing leaf-bases. *Leaves* on the larger specimen (n. 915) 20–22·5 cm. long by 4–4·5 cm. broad, narrowing more or less rapidly downwards; on the smaller specimen (n. 914) 15·5–20 cm. long, 2–3 cm. broad. *Racemes* to 25 cm. long, two developing successively in the same leaf-axil. *Bracts* 1·5 mm. long, broadly cup-shaped. *Sepals* 6·5–7 mm. long by 2–2·3 mm. broad. *Petals* 5 mm. by 1·3 mm.; lip 6 mm. by 4·5 mm.; spur 7 mm. by 1·5 mm. *Column* 2·3 mm. long; rostellum barely 1 mm. long.

Allied to *L. bidens* Rolfe, which it resembles in habit, but is distinguished by its upwardly broadening leaves, larger flowers with longer non-clavate spur and other details.

**Angraecum Talbotii** Rendle sp. nov. *Herba epiphytica pusilla caule brevi crasso; foliis ensiformibus obtusis; scapo filiforme foliis duplo longiore parte inferiore bracteis scariosis brunneis quam internodia brevioribus vaginato; racemo 10-floro; bracteis subpatentibus concavis ovatis acutis flore brevioribus; floribus siccis pallidis; sepalo dorsali concavo oblongo subobtusos, sepp. lateralibus paullo longioribus subacutis; petalis ellipticis apiculatis; labello e basi cordata ovato-triangulari acuto, calcare inflato paullo longiore ad apicem obtusum angustato; columna brevi, rostello producto bifurcato; pollinibus ellipsoideis, caudiculis (2) supra incrassatis et excavatis.* (Pl. 15, figs. 6, 7.)

Oban; n. 941.

A tiny plant, the single specimen 3·5 cm. high, with four shortly ensiform leaves about 1·5 cm. long and barely ·4 mm. broad, crowded on the very short stem from which springs a tuft of filiform roots. Sterile portion of scape with five nodes, sheathing bracts 2·2 cm. long, narrowing and acute above the middle. *Spike* 1·7 cm. long. *Bracts* 2 mm. long. *Flowers* 2 mm. long, excluding ovary with pedicel which together are a little over 1 mm. long. *Dorsal sepal* 1·8 mm. long by ·75 mm. broad when flattened; lateral sepals 2 mm. by ·7 mm. *Petals* 1·6 mm. by ·75 mm.; lip 1·6 mm. long; spur 1·7 mm. *Column* ·6 mm. long.

Evidently near *L. Zenkeri* Kränzl. from the Cameroons, a plant which I have not seen, but which differs (from the description) in its much longer (4–5 cm.) proportionately narrower leaves, the biapiculate lateral sepals, and ovate-oblong lip.

**Vanilla nigerica** Rendle sp. nov. *Planta scandens caule foliato verruculoso; foliis petiolatis e basi rotundata lineari-oblongis acuminatis, petiolo brevi late canaliculato; racemo simplici folio multoties brevioris circa 6-floro, rhachi crassa; bracteis late ovatis subacutis; floribus albidis, sepalis et petalis ellipticis subobtusis; labello late saccato basi bigibba columnae adnato marginibus reflexis crenulatis roseo-striatis, ore inflexo fimbriis crassis instructo; rostello late elliptico.*

Oban; n. 776.

*Leaves* 17–24 cm. long, 4–4·5 cm. broad; petiole 1·5 cm. long.



*Raceme* 6-7 cm. long. *Bracts* 4 mm. long. *Flowers* 7.5 cm. long and broad. *Sepals* and *petals* 4 cm. long by 1.5-2 cm. broad; lip 3 cm. long, 1.5 cm. broad at base, 2.5 cm. at the mouth. *Column* 2 cm. long, adnate to the lip for 1.2 cm. of its length. *Rostellum* 4-5 mm. long.

A very distinct species.

**Platylepis Talbotii** Rendle sp. nov. Herba sesquipedalis caule basi repente in sicco prominente quadrangulari glabro foliato; *foliis* e basi vaginante angusta petiolum simulante inde latioribus ellipticis vel anguste obovatis subacutis 5-7-nerviis glabris; *scapo* bracteato, bracteis siccis papyraceis acutis, inferioribus vaginantibus late ovatis, florentibus ellipticis vel oblongis dorso glanduloso-pilosis ovarium subaequantibus; *racemo* dense multifloro; *floribus* in sicco erectis; *sepalis* ligulatis, in vivo superne recurvatis, apice carnosulis et cucullatis, dorso sparse glanduloso-pilosis; *petalis* anguste linearibus superne spathulatis sepalo dorsali adnatis; *labello* basi saccata bigibbo, parte inferiore columnae adnato, limbo late oblongo, dorso sub apice semiorbiculari recurvato callis geminis oblongis incrassato, callis geminis dentiformibus in quoque sacculo instructo; *capsula* anguste ellipsoidea apice angustata. (Pl. 15, figs. 8, 9.)

Oban; n. 1463.

*Plant* about 5 dm. high. *Stem* 2 mm. thick. *Leaves* 15-20 cm. long including the sheath (2-4 cm. long) and the narrow petiole-like portion (2-5 cm. long), 3.5-5 cm. broad; at the base of the scape is a much smaller leaf. *Scape*, including raceme (to 10 cm. long), about 2.5 dm. long, sheathed at the base by the small uppermost leaf. Lowest *bract* 3.5 cm. long, the upper gradually shorter; fertile *bracts* 10-12 mm. long. *Flower*, excluding ovary, 9 mm. long. *Sepals* 9 mm. long. *Petals* 8 mm.; lip 7 mm., adnate for 4 mm. to the front of the column. *Rostellum* with two long acuminate lobes which are level with the top of the lip. *Capsule* 13 mm. long.

At once distinguished from *P. glandulosa* Reichb. fil. by the longer and larger leaves, the slightly larger flower, the lip-structure, and the longer fruit.

There is in Herb. Kew. an apparently identical specimen in fruit, collected in Uganda (Mawokate, 3900 ft.) by E. Brown (n. 169).

**Habenaria Buntingii** Rendle sp. nov. Planta pedalis ad sesquipedalis *rhizomate* repente et radicibus dense villosis; *caule* debile basi supra vestigia foliorum vaginis foliorum 2 oblongo-ellipticorum subacutorum laxo vestito; *foliis* caulinis parvis in bracteis amplexicaules acuminatas transeuntibus; *spica* subulxiflora; *bracteis* lanceolatis acuminatis 3-nerviis ovarium subaequantibus vel excedentibus; *sepalo* dorsali ovali obtuso quam sepp. lateralibus falcato-ovata paullo brevioribus; *petalis* integris lineari-angustatis sepala lateralibus subaequantibus; *labello* tripartito segmentis e basi latiore lineari-filiformibus; *calcare* geniculato

clavato ovarium aequante; *processibus stigmaticis* satis conspicuis antherae canales subaequantibus; *anthera* pro flore magna. (Pl. 15, figs. 10, 11.)

Oban; n. 774. Liberia, Gonyon, Bassa; *R. H. Bunting*, n. 33; "flowers white to greenish."

The Liberian specimens are taller and stouter than the Nigerian, reaching 4·6 dm. in height with a thickness of 3 mm., the large radical leaves 15 cm. long (including the lax sheathing base) by 3 cm. broad, the spike 9 cm. long. The Nigerian plants range from 17–32 cm. long, with a slender stem 1–1·5 mm. thick, and radical leaves 6–10 cm. long and a shorter, laxer-flowered spike. *Fertile bracts* 12–18 mm. long. *Dorsal sepal* 5–6 mm. long, 2 mm. broad; lateral sepals 6–7·5 mm. long by 2·75–3 mm. broad. *Petals* 7 mm. long by ·5 mm. broad; lip-segments 6–8 mm. long; spur 12 mm. long; stigmatic processes 1 mm. long. *Anther* 2 mm. long.

Apparently (from the description) allied to *H. physuriformis* Kränzl. from the Cameroons, but a larger plant with larger flowers. Kränzlin (in Engl. Jahrb. xliii. 395) places this in his section *Replicatae*, though the petals are described as undivided; it would seem more fitly placed in the section *Tridactylae*.

*Habenaria barrina* Ridl. in Bolet. Soc. Brot. v. 202. Oban; n. 923. A single specimen which is of interest as the species has hitherto been known only from the Island of St. Thomas. By some misunderstanding Rolfe (in Flor. Trop. Afr. viii. 230) cites the species as a synonym of *H. thomana* Reichb. f. The two plants differ remarkably in habit; *H. thomana* has a tuft of rather large radical leaves, while the cauline leaves pass rapidly into bracts; in *H. barrina*, on the other hand, there are no radical leaves, and the lower part of the stem bears reduced leaves which pass above into the more or less lanceolate foliage-leaves occupying the upper part of the stem almost to the base of the inflorescence. The flowers also differ in the two species: in *H. thomana* the two divisions of the petal are strikingly unequal, in *H. barrina* nearly equal; in *H. thomana* the lateral lobes of the lip are comparatively broad, falcate and retuse, in *H. barrina* slender, resembling the median lobe; the length of stigmatic processes and anther-canals is also very different in the two species.

### ZINGIBERACEÆ by Mr. H. N. Ridley.

*Aframomum sceptrum* K. Schum. Oban; nn. 85, 1594, 1605. The form sent is apparently one-flowered. The picture sent with the specimens gives the flowers of a beautiful violet, with white bracts, the lip violet with a paler centre and some yellow streaks in the mouth. The lip is completely convolute round the stamen. The plant figured in the Botanical Magazine (t. 5761) is much paler in colour, only tinted violet. The fruit is smooth and scarlet.

**A. cereum** Hook. fil. Oban ; n. 83. The flowers are shown by a drawing to be pure white.

**A. citratum** Pereira. Oban ; n. 90. A beautiful drawing from life gives the large bracts as white-veined and shaded at the base with violet outside, and darker red-brown within ; the calyx white, with violet shadows ; the lip rosy-white, darkening on the edge and in the throat. The stalk of the leafy stem and long curling bilobed ligule are purplish ; the lamina of the leaf is tinted in parts red and purplish.

**Costus pauciflorus** K. Schum. Represented by a coloured drawing. The corolla is rose-pink with a central yellow blotch on the lip.

**Costus** (*Metacostus*) **Talbotii** Ridl. sp. nov. *Planta epiphytica caule gracili ramoso elongato ; foliis ellipticis acuminatis vel longe acuminatis subcoriaceis glabris, basibus rotundatis vel breviter angustatis, nervis (in sicco conspicuis) circiter 14, petiolo brevi ; ligulis tubulosis elongatis papyraceis brunneis glabris internodia in toto vel ultra medium tegentibus ; spicis lateralibus extra-axillaribus ; bracteis ovatis coriaceis obtusis latis primo pubescentibus mox in marginibus solum hirtis, supremis carinis brevibus obtusis mucroniformibus ; floribus multis in paria digestis ; calyce cyathiformi superne dilatato rubro aequaliter tridentato ; corollae tubo calycem aequante, lobis oblongis obtusis roseis ; labello late obovato marginibus undulatis albo linea mediana pilis brevibus atrorubentibus tecta ; anthera labello brevior, connectivo (appendice) elongato angustiore, basi lobis 2 brevibus onusta ; ovario obscure trilobo apice minute pubescenti.*

Oban ; n. 1521. Also Cameroons, Bipinde ; *Zenker*, n. 3823 in *Herb. Kew*.

*Caulis internodiis 2 cm. longis, 5 mm. in diametro ; foliis 15–17 cm. longis, 3 cm. latis, acumine 2 cm. longo, petiolo 4 mm. longo ; spica 2 cm. longa ; corolla 2 cm. longa, 1 cm. lata ; labello 3 cm. longo, 1 cm. lato.*

This species is allied to *C. lateriflorus* Baker in its lateral inflorescence which is unusual in the genus. It differs from that species in its narrower elliptic less coriaceous leaves, the presence of large ovate bracts on the capitulum and smaller flowers. According to the field-notes the bracts are bright transparent pink, paler, almost white, at the base ; the corolla white, with bright yellow in the mouth of the lip.

**Halopegia azurea** K. Schum. There are a number of specimens and three sketches of *Halopegia* which differ somewhat in appearance. We have first the typical form, in which the flower-spikes are still enclosed in the sheath of the subtending

leaf, but emitting their flowers. The drawing of this form gives the flowers of a pure blue. These resemble closely the types of the plant as described by Schumann, collected in the Camercons by Preuss (n. 352) and in the East Gaboon by Bates (n. 548).

The second drawing (n. 57) shows a plant differing in that the spikes are freed from the leaf-sheath and spreading sub-horizontally. The flower here is given as of a lilac colour. The specimens corresponding to this drawing resemble those of the typical *H. azurea* except that the spikes have spread from the sheath. In other specimens the spikes in two or three fascicles are quite free and spreading, and elongated to as much as 30 cm. I conclude that these are only a later stage development of the form which commences to flower before the spikes are actually free of the petiole-sheath. The flowers are very thin and fugacious and preserve ill; the foliage and fruit, however, are the same in all.

A third form or state has a single spike emitted directly from the rhizome without any of the basal leaves or sheaths developed into true leaves. The few specimens are rather poor, and the drawing is only a pencil sketch. It is quite possible that this is a distinct species, but it may be an occasional sport of an inflorescence in which the foliar stem has been suppressed or not evolved. A similar modification occurs occasionally in *Globba*, *Costus afer*, *C. speciosus* and other members of the family.

This interesting and charming genus whose distribution—Africa, Burma and Java—is peculiar, requires further investigation.

### DIOSCOREACEÆ.

*Dioscorea polyantha* Rendle. Oban; n. 781. The specimen is in male flower; the flowers correspond with those of the type specimen from Angola, but the leaves are partly opposite.

The other species collected are generally distributed in Tropical or West Tropical Africa.

### LILIACEÆ.

The specimens representing this order are generally more or less widely distributed in Tropical Africa. Of the eight species of *Dracaena* two are Nigerian, namely, *D. Godseffiana* Sander (Lagos) and *D. cylindrica* Hook. f. (Calabar). Two species of *Chlorophytum* are from the Cameroons, and one from Sierra Leone.

*Dracaena Talbotii* Rendle sp. nov. *Planta foliis infra spicam aggregatis sessilibus linearibus utrinque angustatis acuminatis basi vaginantibus, nervo mediano crasso per totum*



longitudinem in dorso conspicuo; *scapo* brevi bracteis paucifoliaceis superne deminutis instructo; *inflorescentia* densa cylindrica, floribus in axillis bractearum foliacearum quam spica tota paullo longiorum agglomeratis; *perianthii* tubo anguste cylindrico segmentis linearibus siccis recurvis longiore; *staminibus* segmenta subaequantibus.

Oban; n. 1532.

The *stem* is not present, the specimens consist of a terminal leaf-tuft from the centre of which springs a short stout scape bearing a dense cylindrical bracteate panicle. *Leaves* to 8 dm. long by 2·5 cm. broad, narrowing very gradually from above the middle to a breadth of less than 1 cm. above the broadly sheathing base. *Scape* 3–5 cm. long. *Spike* 8–12 cm. long, 5–6 cm. thick. *Perianth-tube* 1·5 cm. long, 1·5 mm. thick; segments 1·3 cm. long.

Apparently near *D. Preussii* Engl. (from the description), but distinguished by the much narrower leaves and rather larger flowers.

**Chlorophytum Talbotii** Rendle sp. nov. Herba ut apparet elata; *foliis* herbaceis utrinque glabris lanceolatis longe acuminatis, basi in petiolum longum ima basi vaginatim dilatatum angustatis, costa media haud distincta, nervis longitudinalibus 7–10 utrinque subaequaliter prominentibus percursis; *inflorescentia* paniculata, ramis tenuibus ascendentibus e bracteis tenuiter acuminatis oriundis plus minusve laxifloris; *floribus* plurifasciculatis, bracteis e basi concava angustatis apice tenuiter acuminatis margine scariosis, pedicellis supra medium articulatis perianthio longioribus; *perianthii* segmentis lineari-oblongis obtusis trinerviis staminibus aequilongis; *capsula* suborbiculari vertice profunde emarginata triloba; seminibus nigris discoideis margine incurvis rugulosis.

Oban; n. 731.

*Stem* and *root* not known; in the two leaves present the stalk is 17–18 cm. long, channelled above, the blade 2·6–2·9 dm. long by 4·7 cm. broad. *Inflorescence* 6·5 dm. long, the flowers laxly arranged in fascicles on the widely separated slender branches and the upper part of the main axis. *Fertile bracts* 1·4–4 cm. long. *Pedicels* 8–9 mm. long. *Perianth-segments* 6–6·5 mm. long by 1·5 mm. broad. *Capsule* 7 mm. long by 6 mm. broad. *Seeds* 2 mm. in diameter.

Apparently near *C. Thollonianum* Hua (ex descript.) from the French Congo, but distinguished by the large panicle inflorescence. Also evidently near another Congo species *C. Sereti* De Wild. (ex descript. et fig.), but differing in the narrower leaves, paniculate inflorescence, smaller flowers, &c.

## COMMELINACEÆ.

These comprise species more or less widely distributed in Tropical Africa, and include a number of well-known tropical weeds.

## ARACEÆ.

The species collected are mainly restricted to the Gulf of Guinea area, and are useful in extending our knowledge of the distribution of the species concerned. Such are *Amorphophallus accrensis* N. E. Br., from the Gold Coast, a fine specimen with an appendix to the spadix nearly 7 dm. long and 6.5 cm. thick just above the base, *Nepthytis Poissonii* N. E. Br., *Anubias lanceolata* N. E. Br. and *Raphidophora pusilla* N. E. Br., from the Cameroons and Gaboon; *Anubias Afzelii* Schott has hitherto been recorded only from Sierra Leone. *Anchomanes nigritianus* is a new species with a striking inflorescence. Other novelties are *Nepthytis Talbotii* and *Amauriella*, a new genus allied to *Anubias*, but distinguished by the character of the andrœcium.

**Anchomanes nigritianus** Rendle sp. nov. Planta ut apparet eximia; *spatha* ovata crassiuscula atro-purpurea; *spadice* *spathae*  $\frac{1}{4}$  aequante lilacino; *inflorescentia* feminea masculam subaequante; *staminibus* subprismaticis quadrangularibus, thecis linearibus connectivo crassiusculo truncato superatis; *ovario* obovoideo in stilum crassum attenuato, stigmatе crasso verrucoso declivo.

Oban, near Etara; n. 1247. In flower October.

The specimen consists only of the spathe and spadix. The spathe, which is borne on a broken peduncle 15 cm. long, bearing small thorns, is about 4 dm. long, the spadix 8–10 cm. *Stamens* 4.5 mm. long, 2 mm. broad and 1 mm. thick; pollen-sacs 3.3 mm. long. *Ovary* 2–2.5 mm. long, style 1–1.5 mm. long, stigma 2 mm. broad.

Distinguished from the other species of the genus by the similar length of the male and female portions of the flower-spike.

Mrs. Talbot has also sent a natural-size pencil sketch of the spathe with the following notes:—"Great wine-coloured red velvety arum. Outer sheath pinkish, smooth surface; central pillar almost white-mauve at top deepening to mauve lower down, covered with thick yellow stamens. Base of pillar cream; dark red pistils. Stalk dull cream with dull red shadings, tiny thorns deep dark red."

**Nepthytis Talbotii** Rendle sp. nov. Herba glabra rhizomate crasso; *foliis* tripartitis, segmentis subaequalibus oblanceolatis vel lateralibus anguste obovatis acuminatis, seg. mediano unicostato, costa in segmentis lateralibus nervis 2 validis ascendentibus superne convergentibus comitata, nervis lateralibus prominulis pluribus ascendo-patentibus; *pedunculo* basi foliis cataphyllis vaginato petiolo breviorе; *spatha* elliptica apice apiculata basi decurrente, demum subpatente; *spadicis* stipite inferne *spathae* adnato; *inflorescentia* feminea masculam aequante; *pistilla* breviter subquadrangulari-ovoidea apice in stylum brevissimum stigmatе coronatum attenuata; *ovulo* anatropo, micropyle fundum

spectante; *floribus masculis* saepe 4-andris; *stamine* prismatico, thecis longitudinalibus; *baccis* subglobosis.

Oban; n. 766.

*Rhizome* 8 mm. thick. *Leaf* 18 cm. long, segments about 5·5 cm. broad; petiole slender 2 dm. long. *Peduncle* 8·5 cm. long; *spathe* 3 cm. long; *spadix*, stalk 7 mm. long, flowering portion 1·2 cm. long, female portion 5 mm. thick, male portion 3·5 mm. *Pistil* 2 mm. long; *stamen* 1·25 mm. long. *Berry* about 1 cm. in diameter.

Near *N. Poissonii* N. E. Br. but distinguished by the tripartite leaf recalling that of *Cercestis Afzelii* Schott.

### AMAURIELLA Rendle gen. nov.

Flores unisexuales nudi. Flores masculi 2-3-andri; stamina subcuneata basi connata vertice rotundata et antheris geminis parallelis rimis longitudinalibus dehiscentibus tecta. Flores feminei 2-gyni; ovarium biloculare; ovulis plurimis hemianatropis funiculo in longo placenta centrali affixis, micropyle fundum spectante; stylus subnullus, stigma discoideum.

Herba folio petiolato trisecto, segmentis unicostatis, venis primariis frequentibus parallelis prominulis. Pedunculus solitarius folio brevior; spatha convoluta demum superne aperta; spadix protrudens; inflorescentia feminea libera cum mascula contigua, floribus usque ad apicem dense aggregatis.

A member of the subfamily Philodendroideæ near *Anubias*, but distinguished by the partially separated stamens with apical anthers and the trisected leaf.

The genus is named in compliment to Mr. and Mrs. P. Amaury Talbot; there is already a genus *Amauria* (Benth.) in Composite.

*Amauriella obanensis* Rendle sp. unica. Herba glabra folii segmento mediano late lanceolato, segmentis lateralibus brevioribus falcate oblanceolatis obtusis; *pedunculo* petiolo brevioris; *spatha* superne aperta flores masculos ostendente; *spadice* breviter stipitata, inflorescentia feminea mascula 4-plo brevioris; ovario subgloboso. (Pl. 16.)

Oban; n. 1532.

*Leaf*, median segment 2·5 dm. long, 9·5 cm. broad, lateral segments 16-17 cm. long, 4·5-5 cm. broad, stalk (broken off below) 12 cm. long. *Peduncle* 10·5 cm. long; *spathe* 2·5 cm. long; *spadix* (not including short stalk) 2·5 cm., female portion 5 cm. long, male portion 2 cm. long, barely 5 cm. thick. *Male flowers* 1·5 mm. long, anthers barely 1 mm. long. *Ovary* 1 mm. long, emitting copious mucilage when cut in water.

**CYPERACEÆ.**

The collection contains only four species, three of which are distributed in West and Central Tropical Africa; the fourth *Mapania amplivaginata* K. Schum. has hitherto been recorded only from the Cameroons.

**GRAMINEÆ.**

Comparatively few grasses were collected, and these are mainly of wide distribution in the tropics. Two of special interest are *Guaduella Ledermannii* Pilger and a specimen which is probably identical with *G. Zenkeri* Pilger; both these have been previously recorded only from the Cameroons.

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# FUNGI.

By J. RAMSBOTTOM, B.A.

**Lentinus Tuber-regium** Fr. The first description and illustration of this fungus is by Rumphius (Herb. Amboin. vi. lib. xi. 120, t. 57 (1750)). The figure represents what seems to be a smooth block of earth on which six agarics are growing. Rumphius calls the former *Tuber-regium* and the latter *Boleti*. He gives a long account of the *Tuber*: it is very common in spring and autumn during the rainy seasons, and it is then quite soft and not durable. When planted and watered with warm water it produced the *Boleti*, but perished the next year. In size it varies from the size of a man's fist to that of a child's head. A list of native names for the *Tuber* is given and it is stated that it is quite common in certain islands, under grass on the mountains and at the roots of tall trees. In spite of this statement it seems that it has not been again met with in the East Indies.

Fries in his *Systema Mycologicum* i. 174 (1821) places the "Boletus" in the genus *Agaricus* and gives a diagnosis drawn up from Rumphius' description. He queries whether the "matrix" is *Scleroderma*, but later (Syst. Mycol. ii. 243 (1823)) he places it with *Sclerotium Cocos* in his new genus *Pachyma*. Afterwards in the *Epicrisis* (392 (1836-8)) the fungus becomes *Lentinus Tuber-regium*: the statement "non vidi" is added.

The next record of *L. Tuber-regium* is apparently that of Hennings, in Engler Bot. Jahrb. xiv. 351 (1891). He records two specimens, one from Mombassa and one from the Cameroons, and gives a description of the fungus which has been found several times since in the latter district.

In the present collection there are eight specimens of *L. Tuber-regium*, representing a series from the youngest stages where the fruit appears as a small cone of tissue (Pl. 17, fig. 1) to large specimens over 20 cm. across the cap. In only one case is there a perfect sclerotium, which is an irregular structure measuring in its greatest dimensions  $16 \times 15 \times 10$  cm. This bears nine fruit bodies, one of which is very much larger than the others (*cf.* Rumphius—"Boletus crescit aliquando simplex, aliquando duplex, aliquando plures simul, quorum tamen semper unus maximus est"). There seems little doubt that the fungus

is Rumphius' *Tuber-regium*, and also that it is the one described by Hennings. There are, however, one or two facts which may be added to Hennings' description. The squamules which are present in such quantity on the young pileus do not later disappear. Owing to the expansion of the pileus they become widely dispersed and smaller, but in the largest specimen in the collection with a pileus 24 cm. across the squamules can still be clearly seen. The gills bifurcate at the base and undergo further divisions and anastomoses, but the exact procedure has not been made out. The greatest length of stipe is 13 cm., the greatest width 2.5 cm., and the greatest height of a fungus, excluding the sclerotium, 28 cm. The felt of the stipes (which has quite disappeared from the oldest specimens) is usually a dirty fawn colour. Hennings describes it as "weiss." In a spirit specimen, the colour is in places much darker, the upper parts of the stipes having dark squamule-like patches while the bases are almost black. The stipe is usually equal but sometimes attenuate upwards.

In the case of the complete sclerotium, the surface is very uneven; on the projecting areas the colour is usually dark brown or black; where hollows occur the surface is clothed with a felt which is similar in appearance to that on the stipe. On the upper surface of the sclerotium there are some adhering wood fibres which may be of significance with regard to the habitat. In section the sclerotium has a white chalky appearance.

In 1891 Cohn and Schroeter (in Abhandl. Naturw. Verein Hamburg xi. 4) described a new species of *Lentinus*, *L. Woermanni*, which they had succeeded in growing from a sclerotium also obtained from the Cameroons. Their figures of the fungus resemble greatly the stage of *L. Tuber-regium* shown in fig. 2. The only point of distinction is the colour of the stipe which is almost black, but, as stated above, one of the specimens of the present collection, preserved in spirit, bears three fruiting bodies with very dark stipes. The resemblance between the two fungi extends to the microscopic structure. In neither case have spores attached to the basidia been demonstrated. The hyphae of the trama in *L. Woermanni* were about "2 mm." [2  $\mu$ ] broad and thick-walled. In the specimens of *L. Tuber-regium* examined they are 2-3  $\mu$  wide; the club-shaped basidia are a little longer and measure 3-4  $\mu$  across. The cystidia, as in *L. Woermanni*, are usually merely a little longer and wider than the basidia, but at times they project rather more above the hymenium; the greatest width measured was 7  $\mu$ . The shape of the cystidia is however quite characteristic and agrees exactly with Schroeter's description, "am Scheitel kegelförmig zugespitzte Cystiden, an deren Scheitel sich kleine, etwa 2 mm. [2  $\mu$ ] breite kugelförmige farblose Zellen bildeten, die sich schliesslich abgliederten."

Moreover the microscopic structure of the sclerotium in *L. Tuber-regium* is exactly similar to that described by Schroeter, and afterwards by Bommer, in *L. Woermanni*. The internal tissue is of two kinds: (1) hyphae 2–3  $\mu$  wide, undulating, knotty, geniculate but little ramified; and (2) globose, elliptical or elongate structures 10–20  $\mu$  in diameter. With regard to the exterior Schroeter recorded one thin layer composed of brown, strongly interwoven filaments 3–4  $\mu$  wide, with a very narrow lumen. Bommer noted a more marked differentiation at the exterior of the sclerotium: an outer layer 50  $\mu$  thick of cells with sclerotised walls, consisting of an inner and outer portion; beneath this a second layer about 75  $\mu$  thick with the hyphal walls less sclerotised. The same differentiation has been observed in certain sections of the sclerotium of *L. Tuber-regium*, but the layers are not at all so definite as Bommer's account would suggest.

The felt in the hollows of the sclerotium, first noticed by Bommer, is similar to that of the stipe. In both instances it consists of straight hyphae usually about 2  $\mu$  wide with very refringent contents.

In 1901 Massee (in Kew Bull. 163) published a new species, *Lentinus flavidus*, from Old Calabar. The pileus is described as smooth, the stipe as "densissime velutino-hispidulus, brunneus," the spores as elliptical  $10 \times 4 \mu$ . The fungus grows singly from a sclerotium. Miss Wakefield (in Kew Bull. 1912) records the same fungus from Nigeria and suggests that it may possibly be the same as *L. Tuber-regium*; she kindly showed me the two specimens at Kew, and there is not the slightest doubt that both are young specimens of *L. Tuber-regium*. In the type-specimen of *L. flavidus* the squamules are not very well marked, but they are distinctly present.

It is evident that the plant which was described by Rumphius and so long lost sight of, is fairly common in West Africa, and it is probable that *L. Woermanni* Cohn & Schroet. and certainly that *L. flavidus* Mass. are merely stages of the same fungus.

Two other species of *Lentinus* which grow from sclerotia, *L. Cyathus* B. & Br. and *L. scleroticola* Murr., have also been examined. The types are in the National Herbarium. They are quite distinct from one another and from *L. Tuber-regium*.

*Polystictus sacer* Fr. This specimen shows an interesting abnormality. A single stipe starts from the sclerotium, which bifurcates a little above halfway. The main stipe evidently grew the more quickly and formed a normal pileus. The branch, though slower in growth, apparently continued to grow some time longer as it has forced its way through the first formed pileus, and then produced a second normal one over it.

## SYSTEMATIC LIST OF PLANTS COLLECTED.

## FLOWERING PLANTS.

## DICOTYLEDONS.

## POLYPETALÆ.

By EDMUND G. BAKER.

NAME.	NUMBER.	DISTRIBUTION.
RANUNCULACEÆ.		
<i>Clematis grandiflora</i> DC.	1411	Sierra Leone to Congo.
ANONACEÆ.		
<i>Uvaria connivens</i> Benth.	404	Fernando Po ; Ambas Bay.
<i>U. anonoides</i> Bak. fil. sp. nov.	1558	
<i>U. obanensis</i> Bak. fil. sp. nov.	1579, 1603	
<i>Uvariastrum</i> <i>Zenkeri</i> Engl. & Diels var. nov. <i>nigritanum</i> Bak. fil.	3, 1341	Type from Cameroons.
<i>Alphonseopsis parviflora</i> Bak. fil. gen. & sp. nov.	1607	
<i>Pachypodanthium Staudtii</i> Engl. & Diels	1494	Cameroons.
<i>Cleistopholis albida</i> Engl. & Diels var. nov. <i>longipedicellata</i> Bak. fil.	1559	Type from Cameroons.
<i>Anonidium Mannii</i> Engl. & Diels	1477	Cameroons ; Congo.
<i>Unona obanensis</i> Bak. fil. sp. nov.	1246	
<i>U. Millenii</i> Engl. & Diels	199	Lagos.
<i>Popowia Vogelii</i> Baill.	41	Upper Guinea.
<i>P. nigritana</i> Bak. fil. sp. nov.	1550	
<i>Piptostigma pilosum</i> Oliver	1336	Old Calabar.
<i>P. latipetalum</i> Bak. fil. sp. nov.	1290	
<i>Xylopia oxypetala</i> Oliver	1353, 1486	Upper Guinea ; Niamniam Land ; Ituri.
<i>X. Quintasii</i> Engl. & Diels forma	1302	St. Thomas Is.



NAME.	NUMBER.	DISTRIBUTION.
<i>Xylopia aethiopica</i> A. Rich.	226	Upper Guinea.
<i>Dennettia tripetala</i> Bak. fil. gen. & sp. nov.	1496	
<i>Artabotrys Thomsoni</i> Oliver	1407	Cameroons; Gaboon; Upper Congo; Congo.
<i>Monodora Myristica</i> Dunal	1388	Upper and Lower Guinea; Congo.
<i>M. brevipes</i> Benth.	1433	Princes Island.
<i>M. tenuifolia</i> Benth.	1362	Upper Guinea; Sierra Leone; Cameroons; Nigeria.
<i>M. crispata</i> Engl. & Diels	1499	Upper Guinea.
<i>Tetrastemma Solheidii</i> De Wild.	1516, 1517	Congo.

## MENISPERMACEÆ.

<i>Penianthus longifolius</i> Miers	1444	Fernando Po; Cameroons; Gaboon; Belgian Congo.
<i>P. Zenkeri</i> Diels	1358	Upper Guinea.
<i>Jateorrhiza strigosa</i> Miers	163, 449, 1327, 1328	Fernando Po; Cameroons; Congo.
<i>Stephania laetificata</i> Oliver	594	Upper and Lower Guinea.
<i>Cissampelos Pareira</i> L. var. <i>owariensis</i> Beauv.	1257	Widely distributed.

## CAPPARIDACEÆ.

<i>Cleome ciliata</i> Schum. & Thonn.	595	Upper Guinea to Congo.
<i>Ritchiea erecta</i> Hook. fil.	58	Fernando Po.

## VIOLACEÆ.

<i>Ionidium enneaspermum</i> Vent.	597	Widely distributed.
<i>Alsodeia caudata</i> Oliver	477	Upper Guinea.
<i>A. obanensis</i> Bak. fil. sp. nov.	176	
<i>A. crassifolia</i> Bak. fil. sp. nov.	1260	
<i>A. Talbotii</i> Bak. fil. sp. nov.	478	

## BIXACEÆ.

<i>Oncoba dentata</i> Oliver	441, 1425, 1456	Upper Guinea.
<i>O. glauca</i> Hook.	1262	Upper Guinea.
<i>O. Mannii</i> Oliver	1492	Cameroons.
<i>O. spinosa</i> Forsk. var. <i>ango-</i> <i>lensis</i> Oliver	444	Var. from Angola.
<i>Dovyalis Zenkeri</i> Gilg	1261	Cameroons.
<i>Phyllobotryum spathulatum</i> Müll. Arg.	2	Gaboon.
<i>Scottellia kamerunensis</i> Gilg	1756	Cameroons.

## POLYGALACEÆ.

<i>Carpolobia alba</i> Don var. <i>parvi-</i> <i>folia</i> Oliver	419, 404	Upper Guinea.
<i>Securidaca Welwitschii</i> Oliver	1474	Angola and Cameroons to Uganda.

NAME.	NUMBER.	DISTRIBUTION.
HYPERICACEÆ.		
<i>Haronga paniculata</i> Lodd.	440, 540	Widely distributed.
GUTTIFERÆ.		
<i>Allanblackia floribunda</i> Oliver	1335-1337, 1338	Upper Guinea.
<i>Pentadesma grandifolia</i> Bak. fil. sp. nov.	1265	
<i>P. nigritana</i> Bak. fil. sp. nov.	1742	
<i>Symphonia globulifera</i> Linn. fil. var. <i>africana</i> Vesque	220	Upper and Lower Guinea.
<i>Garcinia Staudtii</i> Engl.	1588	Cameroons.
<i>G. densivenia</i> Engl.	229	Cameroons.
<i>G. obanensis</i> Bak. fil. sp. nov.	1334	
<i>G. Mannii</i> Oliver var. nov. <i>brevipedicellata</i> Bak. fil.	1503	Type from Cameroons.
<i>G. punctata</i> Oliver	1637	Upper and Lower Guinea.
MALVACEÆ.		
<i>Sida linifolia</i> Cav.	1403	Widely distributed.
<i>Abutilon zanzibaricum</i> Bojer	1389	Upper Guinea; Mozambique.
<i>Hibiscus surattensis</i> L.	1410	Widely distributed.
<i>H. grewoides</i> Bak. fil. sp. nov.	1343	
STERCULIACEÆ.		
<i>Cola flaviflora</i> Engl. & K. Krause (ex descript.)	15	Cameroons.
<i>C. chlamydantha</i> K. Schum.	6	Cameroons; Congo.
<i>C. marsupium</i> K. Schum.	24, 1338	Cameroons; Gaboon.
<i>C. flavo-velutina</i> K. Schum.	1736	Cameroons.
<i>C. flavo-velutina</i> K. Schum. var. nov. <i>obanensis</i> Bak. fil.	1737	
<i>C. arcuata</i> Bak. fil. sp. nov.	29	
<i>C. micrantha</i> K. Schum.	188	Cameroons.
<i>C. semicarpophylla</i> K. Schum.	1585	Cameroons.
<i>C. lepidota</i> K. Schum.	124, 1382, 1570	Cameroons.
<i>C. rostrata</i> K. Schum.	1626	Cameroons.
<i>C. pachycarpa</i> K. Schum.	1738	Cameroons.
<i>C. Talbotii</i> Bak. fil. sp. nov.	439	Cameroons.
<i>C. digitata</i> Mast.	160, 1244	Cameroons; Gaboon; Belgian Congo; Liberia.
<i>C. gigas</i> Bak. fil. sp. nov.	160	
<i>C. vera</i> K. Schum.	1322, 1344	Upper Guinea.
<i>C. lateritia</i> K. Schum. var. nov. <i>nigrica</i> Bak. fil.	1313	Type from Cameroons.
<i>C. schizandra</i> Bak. fil. sp. nov.	1598	
<i>Melochia corchorifolia</i> L.	1455	Widely distributed.
<i>Scaphopetalum Blackii</i> Mast.	1464	Cameroons; Gaboon.
<i>S. Talbotii</i> Bak. fil. sp. nov.	1562	

NAME.	NUMBER.	DISTRIBUTION.
<i>Scaphopetalum parvifolium</i> Bak. fil. sp. nov.	1264	
<i>Buettneria africana</i> Mast.	438, 1388	Upper and Lower Guinea; Uganda.
TILIACEÆ.		
<i>Grewia africana</i> Mast.	1270	Upper Guinea; Congo.
<i>G. coriacea</i> Mast.	1660	Cameroons.
<i>G. oligoneura</i> Sprague	1460	Cameroons; Fernando Po; Congo.
<i>G. malacocarpa</i> Mast.	1743	Upper Guinea.
<i>G. mollis</i> Juss. (Lake Chad)	1233	Nile Land.
<i>G. tetragastris</i> R. Br. ( <i>G. giganteiflora</i> K. Schum.)	142, 1345	Upper Guinea.
<i>Pentadiplandra Brazzeana</i> Baill.	1241	Congo.
<i>Glyphæa grewoides</i> Hook. fil.	433	West Africa to Uganda.
<i>Diplantheum viridiflorum</i> K. Schum.	1729	Cameroons.
<i>Oubanguia alata</i> Bak. fil. sp. nov.	1513	
MALPIGHIACEÆ.		
<i>Heteropterys africana</i> Juss.	1271	Upper Guinea.
LINACEÆ.		
<i>Hugonia macrophylla</i> Oliver	1545	Old Calabar; Gaboon.
<i>H. Planchoni</i> Hook.	1640	Sierra Leone.
HUMIRIACEÆ.		
<i>Saccoglottis gabunensis</i> Urb.	1744	Cameroons; Gaboon.
GERANIACEÆ.		
<i>Impatiens macroptera</i> Hook. fil.	1272	Cameroons.
<i>I. Talbotii</i> Bak. fil. sp. nov.	430	
<i>Oxalis sensitiva</i> L.	429	Widely distributed.
<i>O. Talbotii</i> Bak. fil. sp. nov.	1409	
RUTACEÆ.		
<i>Clausena anisata</i> Oliver	428	Tropical Africa.
<i>Limonia Preussii</i> Engl.	1472	Togo; Cameroons; Congo.
SIMARUBACEÆ.		
<i>Balanites ægyptiaca</i> Del. var. <i>angolensis</i> Welw. (N. Cameroons)	555	Var. from Angola.
<i>Hannoa Klaineana</i> Pierre	411	Gaboon.
OCHNACEÆ.		
<i>Ouratea calophylla</i> Engl. ( <i>Gomphia calophylla</i> Hook. fil.)	1286	Nigeria; Cameroons; Fernando Po.
<i>O. affinis</i> Engl. ( <i>G. affinis</i> Hook. fil.)	187	Fernando Po; Cameroons.
<i>O. Mannii</i> Engl. ( <i>G. Mannii</i> Hook. fil.)	1745	Fernando Po.

NAME.	NUMBER.	DISTRIBUTION.
<i>Ouratea elongata</i> Gilg ( <i>G. elongata</i> Oliver)	423, 1371	Cameroons.
<i>O. Oliveriana</i> Gilg	1746	Cameroons.
<i>O. nigroviolacea</i> Gilg	1282	Upper Guinea.
BURSERACEÆ.		
<i>Pachylobus balsamifera</i> Guil- laum	1713	Gaboon.
<i>Canarium macrophyllum</i> Oliver	1715	Upper Guinea.
MELIACEÆ.		
<i>Turraea propinqua</i> Hook. fil.	1349	Nigeria ; St. Thomas Is.
<i>Turraeanthus Mannii</i> Baill.	1352	Old Calabar River.
<i>T. Zenkeri</i> Harms	1547	Cameroons.
<i>Trichilia Zenkeri</i> Harms	1370	Cameroons.
<i>T. Laurentii</i> De Wild. (ex de- script.)	1711	Congo.
<i>Guarea glomerulata</i> Harms var. <i>nov. obanensis</i> Bak. fil.	1280, 1285	Type from Cameroons.
<i>G. nigerica</i> Bak. fil. sp. nov.	1350	
<i>G. parviflora</i> Bak. fil. sp. nov.	1281	
<i>Carapa guineensis</i> Sweet	1462	Sierra Leone.
OLACACEÆ.		
<i>Rhaptopetalum coriaceum</i> Oliver.	562	S. Nigeria ; Fernando Po.
<i>Ptychopetalum petiolatum</i> Oliver.	1747	Cameroons.
<i>Olax Zenkeri</i> Engl.	1394	Cameroons.
<i>O. insculpta</i> Hutchins. sp. nov.	1334	
<i>O. Durandii</i> Engl.	1353	Congo.
<i>Strombosia grandifolia</i> Hook. fil.	1403, 1439, 1465	Cameroons ; Congo.
<i>Leptaulus daphnoides</i> Oliver	420	Nigeria to Congo and Uganda.
<i>Leptaulinia Zenkeri</i> Engl.	1410	Cameroons.
<i>Desmostachys Preussii</i> Engl.	21, 100	Cameroons.
<i>Iodes Talbotii</i> Bak. fil. sp. nov.	572	
<i>I. africana</i> Oliver	1578	Upper and Lower Guinea ; Congo.
CHAILLETIACEÆ.		
<i>Dichapetalum Rudatisii</i> Engl. (ex descript.)	19	Cameroons.
<i>D. Zenkeri</i> Engl.	1631	Cameroons.
<i>D. Thomsonii</i> Engl. var. <i>nov. obanense</i> Bak. fil.	1627	Type from Old Calabar.
<i>D. Johnstonii</i> Engl.	1763	Cross River.
CELASTRACEÆ.		
<i>Salacia senegalensis</i> DC.	1284	Upper Guinea.
<i>S. cornifolia</i> Hook. fil. var. <i>crassise-pala</i> Oliver	1668	Old Calabar.



NAME.	NUMBER.	DISTRIBUTION.
<i>Salacia loloensis</i> Loes.	1704	Cameroons.
<i>S. alata</i> De Wild. (ex descript.)	1611	Congo.
<i>S. Talbotii</i> Bak. fil. sp. nov.	1705	
<i>S. Dusenii</i> Loes.	1420	Cameroons.
<i>S. Zenkeri</i> Loes.	1589A	Cameroons.
<i>Hippocratea isotricha</i> Loes.	1275	Cameroons.
<i>H. macrophylla</i> Vahl	1406	Upper Guinea.

## VITACEÆ.

<i>Cissus Smithiana</i> Planch.	561	Cameroons to Angola.
<i>C. producta</i> Afzel.	428, 570	Upper and Lower Guinea to Usambara.
<i>C. rufescens</i> Guill. & Perr. (Lake Chad & Bornu)	1219	Upper Guinea; Lake Chad.
<i>C. ibuensis</i> Hook. fil.	453	Kordofan; Trop. West Africa.

## SAPINDACEÆ.

<i>Cardiospermum grandiflorum</i>	1363	Widely distributed.
Sweet var. <i>elegans</i> Radlk.		
<i>Allophyllus africanus</i> Beauv.	1291, 1365	Upper Guinea; Nile Land.
<i>A. grandifolius</i> Radlk.	1393	Cameroons.
<i>A. longipetiolatus</i> Gilg	413	Cameroons to Congo.
<i>A. hirtellus</i> Hook. fil.	442	Nigeria.
<i>Chytranthus macrophyllus</i> Gilg	1583, 1596	Cameroons.
var. nov. <i>obanensis</i> Bak. fil.		
<i>C. setosus</i> Radlk.	1399	Old Calabar; Cameroons.
<i>Glossolepis Talbotii</i> Bak. fil. sp. nov.	1686	
<i>Laccodiscus dasycarpus</i> Gilg	415	Cameroons.
<i>L. ferrugineus</i> Radlk.	1750	Upper Guinea.
<i>Deinbollia cuneifolia</i> Baker	1751	Upper Guinea.
<i>D. maxima</i> Gilg	1289, 1290	Cameroons.
<i>Aporrhiza Talbotii</i> Bak. fil. sp. nov.	416	
<i>Placodiscus leptostachys</i> Radlk.	1438	Cameroons.
<i>Bersama lobulata</i> Sprague & Hutchins. sp. nov.	1376	

## ANACARDIACEÆ.

<i>Nothospondias Talbotii</i> S. Moore sp. nov.	230	
<i>Trichosecypha Braunii</i> Engl.	87	Cameroons, Congo.
<i>T. Preussii</i> Engl.	81	Cameroons.
<i>T. Talbotii</i> Bak. fil. sp. nov.		
<i>T. paniculata</i> Engl.	1725	Cameroons.
<i>T. longipetala</i> Bak. fil. sp. nov.	1681	

## CONNARACEÆ.

<i>Rourea fasciculata</i> Gilg var. <i>flagellifera</i> Gilg	504	Angola.
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NAME.	NUMBER.	DISTRIBUTION.
<i>Rourea Zenkeri</i> Gilg	1629	Cameroons.
<i>R. hypovellerea</i> Gilg	1724	Cameroons.
<i>Agelaea fragrans</i> Gilg	1294	Cameroons.
<i>Cnestis ferruginea</i> DC.	508	Widely distributed.
<i>C. macrantha</i> Baill.	1706	Old Calabar.
<i>Connarus Smeathmannii</i> DC.	1295, 1296	Upper Guinea; Belgian Congo.
<i>C. Mannii</i> Baker	1707	Old Calabar.
<i>Spiropetalum liberosepalum</i> Bak. fil. sp. nov.	575	

## LEGUMINOSÆ.

<i>Crotalaria Parsonsii</i> Bak. fil. sp. nov.	449	
<i>C. Doniana</i> Benth.	1310	Sierra Leone.
<i>Millettia calabarica</i> Dunn	1703	Calabar.
<i>M. Zechiana</i> Harms	1426	Togo.
<i>M. hypolampra</i> Harms	578	Cameroons.
<i>Ormocarpum coronilloides</i> Hook. fil.	590, 1616	Upper Guinea.
<i>Mucuna urens</i> DC.	1317	Widely distributed.
<i>Vigna membranacea</i> Rich.	445	Nile Land.
<i>Rhynchosia calycina</i> Guill. & Perr.	1748	Upper Guinea.
<i>Dalbergia saxatilis</i> Hook. fil.	1442	Upper Guinea.
<i>Lonchocarpus cyanescens</i> Benth.	120	Upper Guinea.
<i>L. Barteri</i> Benth.	583, 1308	Upper Guinea; Congo.
<i>Derris leptorrhachis</i> Harms forma	1309	Cameroons.
<i>Leptoderris reticulatus</i> Dunn	1511	Western Lagos.
<i>Baphia nitida</i> Afzel.	579	Upper Guinea.
<i>B. crassifolia</i> Harms	1718, 1719	Cameroons.
<i>B. leptobotrys</i> Harms	591	Cameroons.
<i>B. leptobotrys</i> Harms var. nov. nigerica Bak. fil.	1554	
<i>B. spathacea</i> Hook. fil.	1331, 1555	Cameroons.
<i>B. orbiculata</i> Bak. fil. sp. nov.	1557	
<i>B. obanensis</i> Bak. fil. sp. nov.	1682	
<i>Angylocalyx oligophyllus</i> Bak. fil.	1251	Old Calabar River.
<i>A. trifoliolatus</i> Bak. fil.	74	Oban.
<i>Duparquetia orchidacea</i> Baill.	1709	Cameroons.
<i>Distemonanthus Benthamianus</i> Baill.	14, 1479	Cameroons.
<i>Berlinia bracteosa</i> Benth.	1312	Fernando Po.
<i>B. Craibiana</i> Bak. fil. sp. nov.	1524	
<i>Macrolobium demonstrans</i> Oliv. var. nov. Talbotii Bak. fil.	1504	Type from Gaboon.
<i>M. obanense</i> Bak. fil. sp. nov.	1428	

NAME.	NUMBER.	DISTRIBUTION.
<i>Macrobium Palisotii</i> Benth.	1429	Upper Guinea ; Congo ; Angola.
<i>M. leptorrhachis</i> Harms var. nov. <i>nigericum</i> Bak. fil.	582	Type from Cameroons.
<i>M. lamprophyllum</i> Harms	1656	Cameroons.
<i>Afzelia Zenkeri</i> Harms	1468	Cameroons.
<i>Didelotia africana</i> Baill.	1461	Gaboon.
<i>Baikiaea insignis</i> Benth.	1749	Cameroons.
<i>Schotia humboldtioides</i> Oliver	1440	Cameroons.
<i>Cynometra Afzelii</i> DC.	444, 1309	Upper Guinea.
<i>C. longituba</i> Harms	1567	Cameroons.
<i>Calpocalyx Dinklagei</i> Harms	1641	Cameroons.
<i>Pentaclethra macrophylla</i> Benth.	1348	Widely distributed.
<i>Parkia filicoidea</i> Welw. (Lake Chad)		Upper and Lower Guinea ; Mozambique district.
<i>P. Zenkeri</i> Harms	1467	Cameroons.
<i>Mimosa pudica</i> L.	1207	Widely distributed.
<i>Albizia fastigiata</i> E. Mey.	1314	Widely distributed.
<i>Calliandra portoricensis</i> Benth.	1313A	Trop. America ; W. Africa.

## ROSACEÆ.

<i>Acioa pallescens</i> Baill.	1599	Cameroons.
<i>A. Talbotii</i> Bak. fil. sp. nov.	1533	
<i>A. icondere</i> Baill.	1529	Upper Guinea.
<i>Griffonia Barteri</i> Hook. fil.	1372, 1625	Upper Guinea.
<i>Parinarium chrysophyllum</i> Oliver	497, 1370	Cameroons.

## CRASSULACEÆ.

<i>Kalanchoe crenata</i> Haw.	1755	Widely distributed.
<i>Bryophyllum calycinum</i> Salisb.	1510	Widely distributed.

## RHIZOPHORACEÆ.

<i>Dactylopetalum Mannii</i> Hook. fil.	1757	St. Thomas Is.
<i>Poga oleosa</i> Pierre	1636	Gaboon.

## COMBRETACEÆ.

<i>Combretum paucinervium</i> Engl. & Diels var. nov. <i>obanense</i> Bak. fil.	1676	Type from the Cameroons.
<i>C. mucronatum</i> Schum. & Thonn.	1386	Upper Guinea ; Belgian Congo.
<i>C. dolichopetalum</i> Engl. & Diels	1333, 1344	Sierra Leone to Cameroons.
<i>C. bracteatum</i> Engl. & Diels	77	Cameroons ; Angola.

## MYRTACEÆ.

<i>Napoleona parviflora</i> Bak. fil. sp. nov.	193	
<i>N. Miersii</i> Hook. fil.	998	W. Tropical Africa.

NAME.	NUMBER.	DISTRIBUTION.
<i>Napoleona cuspidata</i> Miers	1400	Nigeria.
<i>N. Alexanderi</i> Talbot & Bak. fil. sp. nov.	997A	
<i>N. megacarpa</i> Bak. fil. sp. nov.	194	
<i>N. Talbotii</i> Bak. fil. sp. nov.	195	
<i>N. Gascoignei</i> Bak. fil. sp. nov.	1223	
<i>N. Egertonii</i> Bak. fil. sp. nov.	997	
<i>Crateranthus Talbotii</i> Bak. fil. gen. & sp. nov. with vars.	5, 5A, 1643	
<i>Eugenia obanensis</i> Bak. fil. sp. nov.	1651	
MELASTOMACEÆ.		
<i>Dissotis Talbotii</i> Bak. fil. sp. nov.	591	
<i>D. prostrata</i> Triana	1700	Upper Guinea; Angola; Mo- zambique district.
<i>D. theaeifolia</i> Benth.	1257	Upper Guinea.
<i>Sakersia africana</i> Hook. fil.	1347	Cameroons.
<i>Memecylon obanense</i> Bak. fil. sp. nov.	486	
<i>M. applanatum</i> Bak. fil. sp. nov.	1606	
<i>M. Machairacme</i> Gilg	203	Cameroons.
<i>M. Zenkeri</i> Gilg var. nov. par- vifolium Bak. fil.	1739	Type from Cameroons.
<i>M. candidum</i> Gilg (small-leaved form)	1717	Cameroons.
<i>Myrianthemum mirabile</i> Gilg var. nov. <i>dentatum</i> Bak. fil.	587	Type from Cameroons; Ga- boon.
SAMYDACEÆ.		
<i>Pyramidocarpus Blackii</i> Oliver	1767	River Muni.
<i>Homalium stipulaceum</i> Welw.	1390	Upper and Lower Guinea.
<i>H. africanum</i> Benth.	1419, 1814	Upper Guinea.
<i>Casearia bule</i> Gilg	1630	Cameroons.
PASSIFLORACEÆ.		
<i>Barteria fistulosa</i> Mast.	471	Cameroons.
<i>Adenia lobata</i> Engl.	1619, 1659	Sierra Leone; Cameroons; Angola.
<i>A. Mannii</i> Engl.	1754	Ambas Bay.
<i>Paropsia Pritzeltii</i> Warb.	1623	Cameroons.
<i>Soyauxia bipindensis</i> Gilg	1614	Cameroons.
CUCURBITACEÆ.		
<i>Momordica cissoides</i> Planch.	1428A	Upper and Lower Guinea.
<i>Luffa ægyptiaca</i> Mill.	463	Widely spread.
<i>Dimorphochlamys Mannii</i> Hook. fil.	1385, 1395A	Calabar; Fernando Po; Cameroons.



NAME.	NUMBER.	DISTRIBUTION.
BEGONIACEÆ.		
<i>Begonia polygonoides</i> Hook. fil.	1740	Old Calabar.
<i>B. excelsa</i> Hook. fil.	1541	Cameroons.
<i>B. squamulosa</i> Hook. fil.	1741	Cameroons.

UMBELLIFERÆ.		
<i>Hydrocotyle bonariensis</i> Lam.	461, 1421	Widely distributed.

ARALIACEÆ.		
<i>Heptapleurum Barteri</i> Hiern	462	Cameroons.

## GAMOPETALÆ.

By H. F. WERNHAM; excepting Compositæ, Asclepiadaceæ, and Acanthaceæ, by SPENCER MOORE, and Convolvulaceæ, by Dr. A. B. RENDLE.

NAME.	NUMBER.	DISTRIBUTION.
RUBIACEÆ.		
<i>Sarcocephalus sambucinus</i> K. Schum.	1604	Upper Guinea.
<i>Mitragyna africana</i> Korth. (River Benue)	355	Upper Guinea; Gazelle River.
<i>M. macrophylla</i> Hiern	2023	Upper and Lower Guinea; North Central.
<i>Uncaria africana</i> G. Don	274, 2022	Upper Guinea and Mascarene Islands.
<i>U. Talbotii</i> Wernham sp. nov.	163	
<i>Hymenodictyon biafranum</i> Hiern	213, 256	Princes Island; Cameroons.
<i>Corynanthe pachyceras</i> K. Sch.	2044	Cameroons.
<i>Pausinystalia Talbotii</i> Wern- ham sp. nov.	1493	
<i>Argostemma pumilum</i> Benn.	144, 345	Sierra Leone; N. India.
<i>Virecta multiflora</i> Smith	282	Upper Guinea to Uganda.
<i>V. procumbens</i> Smith	253	Upper Guinea; Congo.
<i>Oldenlandia Peltospermum</i> Hiern	207, 242	Upper Guinea; Congo.
* <i>O. senegalensis</i> Hiern	260	Upper Guinea; Nile Land.
* <i>O. grandiflora</i> Hiern	257	Upper Guinea; Nile Land.
<i>O. lancifolia</i> DC.	226	Upper and Lower Guinea; Central Africa.
* <i>O. corymbosa</i> L.	265	Common throughout the tropics.

\* French Ubangi.

NAME.	NUMBER.	DISTRIBUTION.
<i>Hekistocarpa minutiflora</i> Hook. fil.	252	Old Calabar ; Cameroons.
<i>Mussaenda arcuata</i> Poir.	203, 1052	Tropical Africa ; Mascarene Islands.
<i>M. Isertiana</i> DC.	2068	Upper Guinea.
<i>M. tenuiflora</i> Benth.	1050	Upper Guinea ; Golungo Alto.
<i>M. elegans</i> Schum. & Thonn.	273, 1047	Upper Guinea ; Monbuttu ; Golungo Alto.
<i>M. Afzelioides</i> Wernham sp. nov.	212, 275	
<i>Urophyllum Talbotii</i> Wernham sp. nov.	225	
<i>Sabicea floribunda</i> K. Schum.	228	Cameroons.
<i>S. calycina</i> Benth.	114A	Cameroons ; S. Nigeria ; Congo.
<i>S. pedicellata</i> Wernham sp. nov.	1367, 2033	
<i>S. geophiloides</i> Wernham sp. nov.	255	
<i>S. gigantostipula</i> K. Schum.	259	Cameroons.
<i>S. speciosa</i> K. Schum.	1040	Cameroons.
<i>S. Talbotii</i> Wernham sp. nov.	2032	
<i>S. xanthotricha</i> Wernham sp. nov.	249	
<i>Afrohamelia bracteata</i> Wern- ham gen. & sp. nov.	1662	
<i>Heinsia jasminiflora</i> DC.	276, 231, 347	Upper Guinea chiefly ; also Angola and Mozambique district.
<i>Bertiera laxa</i> Benth.	51	Upper Guinea.
<i>B. racemosa</i> K. Schum.	1310	Upper Guinea.
<i>B. breviflora</i> Hiern	209	Upper Guinea ; Congo.
<i>B. bracteolata</i> Hiern	1288, 2060	Sierra Leone ; Cameroons.
<i>B. retrofracta</i> K. Schum.	236	Cameroons.
<i>Dictyandra arborescens</i> Welw.	1515	Upper Guinea ; Angola ; Uganda.
<i>Leptactina densiflora</i> Hook. f.	220, 1613	S. Nigeria.
<i>L. euosmia</i> K. Schum.	283	Cameroons.
<i>Tarennia grandiflora</i> Hiern	279	Fernando Po ; Cameroons.
<i>T. bipindensis</i> Wernham (Cho- melia bipind. K. Schum.)	229, 1048	Cameroons.
<i>T. fusco-flava</i> S. Moore (C. fusco- flava K. Schum.)	232	Cameroons ; Angola.
<i>T. Talbotii</i> Wernham sp. nov.	1548	
<i>T. baconioides</i> Wernham sp. nov.	1595	
<i>Randia acuminata</i> Benth.	210	Upper Guinea ; Congo ; Mon- buttu.
<i>R. genipæflora</i> DC.	1553	Upper Guinea.
<i>R. macrantha</i> DC.	254, 1672	Upper Guinea ; Angola.
<i>R. maculata</i> DC.	182, 206	West Africa to Uganda.
<i>R. octomera</i> Benth. & Hook. f.	219	Old Calabar ; Fernando Po ; Congo.

NAME.	NUMBER.	DISTRIBUTION.
<i>Randia cladantha</i> K. Schum.	145, 214B	Cameroons.
<i>R. exserta</i> K. Schum.	1514	Cameroons.
<i>R. immanifolia</i> Wernham sp. nov.	189	
<i>R. longipedicellata</i> K. Schum.	30, 262	Cameroons.
<i>R. physophylla</i> K. Schum.	165, 278	Cameroons.
<i>R. streptocaulon</i> K. Schum.	211A	Cameroons.
<i>R. Talbotii</i> Wernham, sp. nov.	217	
<i>Dorothea Talbotii</i> Wernham gen. & sp. nov.	1546	
<i>Gardenia Thunbergia</i> Linn. fil. (Bornu)	271	Tropical and South Africa.
<i>G. Vogelii</i> Hook. fil.	1243	Upper Guinea; Congo; Central Africa.
<i>G. abbeokutæ</i> Hiern	1519	Cameroons.
<i>G. fernandensis</i> Hiern	2041	Fernando Po; Sierra Leone.
<i>G. Kalbreyeri</i> Hiern	200	S. Nigeria.
<i>G. ochroleuca</i> K. Schum.	108	Cameroons.
<i>G. spathicalyx</i> K. Schum.	201, 348, 2026	Cameroons.
<i>Oxyanthus speciosus</i> DC.	288	Upper Guinea; Angola; Congo; German East Africa.
<i>O. unilocularis</i> Hiern	289, 1232	Upper Guinea.
<i>O. laxiflorus</i> K. Schum.	1314, 1359, 2034	Cameroons.
<i>Amaralia bignoniæflora</i> Welw.	202	Upper Guinea; Angola; Monbuttu; Niamniam.
<i>A. calycina</i> K. Schum.	269	Cameroons.
<i>Cremaspora africana</i> Benth.	1507	Tropical Africa.
<i>C. Talbotii</i> Wernham sp. nov.	287	
<i>C. glabra</i> Wernham sp. nov.	1536	
<i>C. Thomsoni</i> Hiern	1049	Old Calabar.
<i>Diplosporopsis coffeoides</i> Wernham gen. & sp. nov.	1649	
<i>D. Talbotii</i> Wernham sp. nov.	1056	
<i>Canthium Thonningii</i> Benth.	1688, 2035	Guinea.
<i>C. acutiflorum</i> Hiern	1543	Old Calabar; Cameroons.
<i>C. caudatiflorum</i> Hiern	246, 1657	Sierra Leone.
<i>C. venosum</i> Oliver var. <i>pubescens</i> Hiern	2075	Sierra Leone; Nigeria.
<i>C. Afzelianum</i> Hiern	277	Sierra Leone; Nigeria.
<i>Canthium calycophilum</i> Wernham ( <i>Plectronia calycophila</i> K. Schum.)	1549	Cameroons.
<i>Vangueria argentea</i> Wernham sp. nov.	215	
<i>Cuviera subuliflora</i> Benth.	222, 286, 2036	Sierra Leone; South Nigeria; Fernando Po.
<i>C. trilocularis</i> Hiern	221, 272	Old Calabar.
<i>Globulostylis Talbotii</i> Wernham gen. & sp. nov.	2051	

NAME.	NUMBER.	DISTRIBUTION.
<i>Globulostylis minor</i> Wernham sp. nov.	247	
<i>Craterispermum laurinum</i> Benth.	208, 2067	Tropical Africa.
<i>C. aristatum</i> Wernham sp. nov.	251	
<i>C. cerinanthum</i> Hiern	2025	Upper Guinea.
<i>Ixora riparia</i> Hiern	1413	Upper Guinea.
<i>I. tetramera</i> K. Schum.	231	Cameroons.
<i>I. viridiflora</i> K. Schum.	2037	Cameroons.
<i>I. Talbotii</i> Wernham sp. nov.	2038	
<i>I. obanensis</i> Wernham sp. nov.	230	
<i>Pavetta brachycalyx</i> Hiern	349, 359	Upper Guinea; Uganda.
<i>P. hispida</i> Hiern	26, 1490	Cameroons.
<i>P. brachycoryne</i> K. Schum.	1573	Cameroons.
<i>P. glaucescens</i> Hiern	1451, 2042	Fernando Po.
<i>P. Talbotii</i> Wernham sp. nov.	1638	
<i>Coffea subcordata</i> Hiern (forma <i>floribus magnis</i> )	243, 1523	S. Nigeria; Cameroons.
<i>C. Talbotii</i> Wernham sp. nov.	1620	
<i>Psilanthus Mannii</i> Hook. fil.	1414	Sierra Leone; Cameroons; Congo.
<i>Rutidea rufipilis</i> Hiern	223	Sierra Leone and South Ni- geria to E. Tropical Africa.
<i>R. Smithii</i> Hiern	280, 2039	Sierra Leone; Cameroons; Congo.
<i>R. decorticata</i> Hiern	248	Cameroons.
<i>Morinda longiflora</i> G. Don	204, 205, 1667	Upper Guinea; Congo; An- gola; N. Central.
<i>Psychotria humilis</i> Hiern	362	Corisco Bay.
<i>P. sciadephora</i> Hiern	2045	Cameroons.
<i>P. microthyrsus</i> K. Schum.	2043	Cameroons.
<i>P. reptans</i> Benth.	234	Upper Guinea; Angola.
<i>P. alatipes</i> Wernham sp. nov.	241	
<i>P. obanensis</i> Wernham sp. nov.	244	
<i>P. Dorotheæ</i> Wernham sp. nov.	1561	
<i>P. viticoides</i> Wernham sp. nov.	2080	
<i>P. potanthera</i> Wernham sp. nov.	240	
<i>P. Talbotii</i> Wernham sp. nov.	1054	
<i>Chasalia Anselii</i> K. Schum.	233	Upper Guinea; Congo.
<i>Grumilea venosa</i> Hiern	235, 2040	Cameroons.
<i>G. micrantha</i> Hiern	2024	Sierra Leone; S. Nigeria.
<i>Geophila reniformis</i> D. Don	224	St. Thomas Is.; S. Nigeria; Angola; Tropical Asia and America.
<i>G. uniflora</i> Hiern	263A	S. Nigeria; Lower Guinea; Congo.
<i>G. Afzelii</i> Hiern	263	Upper Guinea; Angola.
<i>G. obvallata</i> Hiern	263	Upper Guinea.
<i>Cephaelis peduncularis</i> Salisb.	237	Upper Guinea and Angola to Uganda.



NAME.	NUMBER.	DISTRIBUTION.
<i>Cephaelis Mannii</i> Hiern	154, 240	Old Calabar; Fernando Po; Cameroons.
<i>Trichostachys Talbotii</i> Wernham sp. nov.	1041	
<i>T. Krausiana</i> Wernham sp. nov.	1045	
* <i>Lasianthus Mannii</i> Wernham sp. nov.	266	Gaboon.
<i>Diodia scandens</i> Sw.	206, 2031	Tropical Africa; Madagascar; Tropical America.
<i>Spermacoe ramisparsa</i> Benth.	227	Upper Guinea; Mascarene Is.
* <i>Octodon filifolium</i> Sch. & Thonn.	357	Upper Guinea; Niamniam.
* <i>O. setosum</i> Hiern		Upper Guinea.
* <i>Mitracarpum scabrum</i> Zucc.	270, 355A	Tropical Africa; Cape de Verde Is.

## COMPOSITE.

<i>Sparganophorus Vaillantii</i> Gaertn.	399	Introduced from Tropical America.
<i>Vernonia senegalensis</i> Less.	397	Tropical Africa.
<i>V. amygdalina</i> Delile	2014	Tropical Africa.
<i>V. Kotschyana</i> Sch. Bip.	2015	N. Cameroons to Somaliland.
<i>V. frondosa</i> Oliver & Hiern	49A	Nigeria; Cameroons; Congo.
<i>V. conferta</i> Benth.	26A, 398 1498	West Tropical Africa; Congo.
<i>Adenostemma viscosum</i> Forst.	394	Tropical Africa; Asia; Polynesia.
<i>Mikania scandens</i> Willd.	395	A tropical and subtropical weed.
<i>Microglossa Afzelii</i> O. Hoffm.	1671	Sierra Leone to Uganda.
<i>Conyza persicæfolia</i> Oliver & Hiern	999	Tropical Africa.
<i>Sphæranthus Talbotii</i> S. Moore (N. Cameroons)	1005	
<i>Aspilia latifolia</i> Oliver & Hiern	987	Liberia to Congo Free State.
<i>Melanthera Brownei</i> Sch. Bip.	389, 986	Tropical and South Africa.
<i>Spilanthes caulirhiza</i> DC.	974	Tropical and South Africa.
<i>Synedrella nodiflora</i> Gaertn.	392	A widely dispersed weed of American origin.
<i>Emilia sagittata</i> DC.	998	A tropical weed.
<i>Crassocephalum bialæ</i> S. Moore	1549	Sierra Leone; Cameroons.
<i>C. sarcobasis</i> S. Moore (River Benue)	106A	Tropical Africa; Madagascar.
<i>C. crepidioides</i> S. Moore	1003	Tropical Africa; Mascarene Islands.
<i>Centaurea Perrottetii</i> DC. (N. Cameroons)	1007	Senegambia.

## CAMPANULACEÆ.

<i>Lobelia galeopsoides</i> Engl. & Diels	1259	Cameroons.
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\* River Benue.

NAME.	NUMBER.	DISTRIBUTION.
SAPOTACEÆ.		
<i>Omphalocarpum Radlkoferi</i> Baill.	361	Cameroons.
EBENACEÆ.		
<i>Diospyros incarnata</i> Gürke	1417	Cameroons.
<i>D. Preussii</i> Gürke	1329, 1452	Cameroons.
<i>D. Talbotii</i> Wernham sp. nov.	1560	
OLEACEÆ.		
<i>Jasminum Zenkeri</i> Gilg	335	Cameroons.
<i>J. Talbotii</i> Wernham sp. nov.	336	
APOCYNACEÆ.		
<i>Landolphia senegalensis</i> DC.	296	Upper Guinea.
<i>L. ochracea</i> K. Schum.	292	Cameroons.
<i>L. owariensis</i> Beauv.	1658, 2049	Upper and Lower Guinea; Congo Free State.
<i>L. glaberrima</i> A. Chev.	1655	French Sudan.
<i>L. stipulosa</i> S. Moore sp. nov.	346	
<i>L. Talbotii</i> Wernham sp. nov.	1038	
<i>L. Stapfiana</i> Wernham sp. nov.	1617	
<i>Vahadenia Talbotii</i> Wernham sp. nov.	1634	
<i>Clitandra cirrhosa</i> Radlk.	1351, 1537	Cameroons; Gaboon.
<i>C. leptantha</i> Hallier f.	1526, 2047	Cameroons; Gaboon.
<i>C. longituba</i> Wernham sp. nov.	1577	
<i>C. Talbotii</i> Wernham sp. nov.	1039	
<i>Carpodinus Barteri</i> Stapf	297	Upper Guinea.
<i>C. rufinervis</i> Pierre	2030	Gaboon.
<i>C. violacea</i> K. Schum.	1445	Cameroons.
<i>C. uniflora</i> Stapf	298, 1480	Cameroons; Gaboon.
<i>C. oxyanthoides</i> Wernham sp. nov.	1443	
<i>C. Talbotii</i> Wernham sp. nov.	1055	
<i>Picalima Klaineana</i> Pierre	219A, 1690	Old Calabar; Cameroons; Gaboon; Congo Free State.
<i>Pleiocarpa bicarpellata</i> Stapf	365	Cameroons.
<i>P. mutica</i> Benth.	1565, 1654	S. Nigeria; Cameroons.
<i>P. Talbotii</i> Wernham sp. nov.	1037	
<i>Thevetia neriifolia</i> Juss.	178	Tropical S. America. Probably an escape.
<i>Rauwolfia vomitoria</i> Stapf	2046	Western Tropical Africa; Congo Free State; German East Africa.
<i>Alstonia congensis</i> Engl.	2028	Senegambia to Lower Congo; British East Africa.
<i>Callichilia inæqualis</i> Stapf	291, 2063	Cameroons; Gaboon.

NAME.	NUMBER.	DISTRIBUTION.
<i>Callichilia Barteri</i> Stapf	2048	Upper Guinea.
<i>Gabunia glandulosa</i> Stapf	1481	Liberia; Sierra Leone.
<i>G. longiflora</i> Stapf	1525	Fernando Po.
<i>Conopharyngia pachysiphon</i> Stapf	1397	Lower Niger; Lagos.
<i>C. durissima</i> Stapf	218	Cameroons; Gaboon.
<i>C. brachyantha</i> Stapf	2052	Cameroons; Fernando Po.
<i>C. (?) penduliflora</i> Stapf	1506	Cameroons.
<i>Voacanga obtusa</i> K. Schum.	295	Upper and Lower Guinea; South Central; Uganda.
<i>V. psilocalyx</i> Pierre	302	Gaboon.
<i>V. Zenkeri</i> Stapf	290	Cameroons.
<i>V. Talbotii</i> Wernham sp. nov.	1624	
<i>V. obanensis</i> Wernham sp. nov.	2071	
<i>V. magnifolia</i> Wernham sp. nov.	1053	
<i>Strophanthus gratus</i> Franch.	90A, 2054	Upper Guinea; Gaboon.
<i>S. Tholloni</i> Franch.	80A	Cameroons; Gaboon.
<i>S. hispidus</i> DC.	2029	Upper and Lower Guinea; Congo Free State.
<i>S. Bullenianus</i> Mast.	211	South Nigeria; Gaboon.
<i>S. Preussii</i> Engl. & Pax	364	Upper and Lower Guinea; Congo Free State.
<i>S. sarmentosus</i> DC.	1349, 1479	Upper Guinea; Lower Congo.
<i>Funtumia africana</i> Stapf	1466	Upper Guinea; Gaboon; Lower Congo.
<i>Alafia lucida</i> Stapf	301	Tropical Africa.
<i>Holalafia multiflora</i> Stapf	300	Upper Guinea; Congo Free State.
<i>Baissea laxiflora</i> Stapf	2053	S. Nigeria; Cameroons; Gaboon.
<i>Oncinotis gracilis</i> Stapf	59A, 1675.	Gold Coast.
<i>O. campanulata</i> K. Schum.	1692	Cameroons.
<i>Motandra guineensis</i> A.DC.	2062	Upper Guinea; Congo Free State.
<i>Adenium Honghel</i> A.DC. (French Ubangi)	294	Upper Guinea.

## ASCLEPIADACEÆ.

<i>Batesanthus Talbotii</i> S. Moore sp. nov.	2021	
<i>B. Talbotii</i> var. <i>grandifolius</i> S. Moore	63	
<i>Periploca nigrescens</i> Afzel.	2016	Sierra Leone to Congo Free State.
<i>Secamone myrtifolia</i> Benth.	376, 376A, 1028	Senegambia to Congo.
<i>S. conostyla</i> S. Moore sp. nov.	1030	
<i>Kanahia consimilis</i> N. E. Br.	1551	South Nigeria; Cameroons.

NAME.	NUMBER.	DISTRIBUTION.
<i>Dæmia extensa</i> R. Br.	997	Tropical and S. Africa ; Madagascar ; India.
<i>Cynanchum Adalinæ</i> K. Schum.	373, 2012	Cameroons ; French Congo.
<i>Tylophora sylvatica</i> Decne.	374, 375, 961	Tropical Africa ; Cameroons.
<i>T. oblonga</i> N. E. Br.	2018	Fernando Po.
<i>T. liberica</i> N. E. Br. (River Benue, N. Nigeria)	1013	Liberia.
<i>Marsdenia racemosa</i> K. Schum.	1004, 2072	Gold Coast to Congo.
<i>M. efulensis</i> N. E. Br.	1684	Cameroons.
<i>Ceropegia Talbotii</i> S. Moore sp. nov.	116	
<i>C. anceps</i> S. Moore sp. nov.	174	
LOGANIACEÆ.		
<i>Mostuea Thomsoni</i> Benth.	306	Old Calabar.
<i>M. angustifolia</i> Wernham sp. nov.	1035	
<i>Usteria guineensis</i> Willd.	303	Upper Guinea.
<i>Strychnos aculeata</i> Soler.	2013	Upper Guinea.
<i>S. pansa</i> S. Moore sp. nov.	1661	
<i>S. Talbotiæ</i> S. Moore sp. nov.	2077	
<i>S. memecyloides</i> S. Moore sp. nov.	2078	
<i>S. memecyloides</i> var. nov. <i>effusior</i> S. Moore	2079	
<i>S. pusilliflora</i> S. Moore sp. nov.	1256	
<i>Scyphostrychnos Talbotii</i> S. Moore gen. & sp. nov.	1664	
<i>Anthocheista Talbotii</i> Wernham sp. nov.	177, 1448, 2027	
<i>A. microphylla</i> Wernham sp. nov.	304	
<i>A. obanensis</i> Wernham sp. nov.	305	
GENTIANACEÆ.		
<i>Schultesia stenophylla</i> var. <i>latifolia</i> Mart.	329	Senegambia ; (Sierra Leone. Probably introduced from Brazil.
HYDROPHYLLACEÆ.		
* <i>Hydrolea graminifolia</i> A. W. Benn.	332	Upper Guinea.
BORAGINACEÆ.		
<i>Cordia Zenkeri</i> Gürke	318	Cameroons.
* <i>Varronia abyssinica</i> DC.	326	Nile Land ; Nyasaland ; Angola ; Arabia.
<i>Heliotropium strigosum</i> Willd. (N. Cameroons)	1042	Cameroons.
<i>H. undulatum</i> Vahl (Garua to Golombe)	330	Africa ; West Asia.

\* French Ubangi, Tuburi Marsh.



NAME.	NUMBER.	DISTRIBUTION.
CONVOLVULACEÆ.		
* <i>Evolvulus alsinoides</i> L.	799	Widely spread in the tropics.
<i>Bonamia cymosa</i> Hallier fil.	88A	Upper Guinea.
<i>Neuropeltis acuminata</i> Benth.		Upper Guinea.
<i>Prevostea nigerica</i> Rendle sp. nov.	1484	
<i>Jacquemontia capitata</i> G. Don (Yola, R. Benue)	833	Tropical and South Africa; Mascarene Islands.
<i>Hewittia bicolor</i> Wight	798	Tropical Africa; Natal; Tropical Asia.
<i>Merremia kentrocaulos</i> Rendle	†817, *818	Tropical Africa.
<i>M. umbellata</i> Hallier fil.	791	Upper Guinea; German East Africa; Tropical America.
* <i>M. pes-draconis</i> Hallier f. var. <i>nigerica</i> Rendle var. nov.	832	The species occurs in the Congo.
<i>M. pentaphylla</i> Hallier fil.	†794, *792 ‡793	Widely spread in the tropics.
<i>M. angustifolia</i> Hallier fil.	§796, *834	Tropical and South Africa.
‡ <i>M. pinnata</i> Hallier fil.	828	Upper Guinea; Eastern Tropical Africa.
* <i>M. emarginata</i> Hallier fil.	795	Angola; East Tropical Africa; Tropical Asia.
<i>M. convolvulacea</i> Dennst.	†790, †819, *835	Tropical Africa; Mascarene Islands; Tropical Asia.
* <i>Lepistemon africanus</i> Oliver	797	Tropical Africa.
<i>L. parviflorus</i> Pilger	805	Cameroons.
<i>Calonyction speciosum</i> Choisy	825	Widely spread in the tropics.
<i>Astrochlena Stuhlmannii</i> Hallier fil. (Yola, R. Benue)	827	Nigeria; Eastern Tropical Africa.
<i>Ipomœa eriocarpa</i> R. Br.	*823, *824 ‡829	Tropical Africa; Madagascar; Tropical Asia to W. Australia.
<i>I. involucrata</i> Beauv.	§813, 814	Tropical Africa.
* <i>I. argentaurata</i> Hallier fil.	810	Togo; Lagos; N. Nigeria.
<i>I. amœna</i> Choisy	*811, †830	West Tropical and Central Africa; Nubia.
<i>I. velutipes</i> Welw.	812	Angola; South Cameroons.
* <i>I. Wightii</i> Choisy	808	East Tropical to South Africa; Madagascar; Tropical Asia.
* <i>I. hederacea</i> Jacq.	822	Widely spread in the tropics.
† <i>I. ochracea</i> G. Don	815	West Tropical Africa.
<i>I. micrantha</i> Hallier fil.		Ashanti; Cameroons.
† <i>I. acanthocarpa</i> Hochst.	816	Cordofan; Senegal.
* <i>I. aquatica</i> Forsk.	831	Tropical Africa; Tropical Asia to W. Australia.
† <i>I. asarifolia</i> Roem. & Schult.	809	Upper Guinea; Angola; Nile land; Tropical Asia and Tropical America.

\* River Benue, N. Nigeria.      † French Congo.      ‡ N. Cameroons.  
 § Lake Chad and Bornu.

NAME.	NUMBER.	DISTRIBUTION.
<i>Ipomoea dissecta</i> Willd.	*806, †807	Tropical and South Africa; Tropical Asia; Australia.
<i>I. lilacina</i> Bl.	†802, §803, ‡804	Tropical Africa; Mascarene Islands.
<i>I. Hierniana</i> Rendle	801	Cameroons (Bipinde).
<i>I. digitata</i> L.	800	Cosmopolitan in the tropics.

## SOLANACEÆ.

<i>Solanum duplosinuatum</i> Klotzsch	1061	Tropical and South Africa.
<i>Physalis angulata</i> L.	1060	Upper Guinea; Angola.
<i>P. minima</i> L. (R. Benue)	1059	Tropical Africa.
<i>Schwenkia americana</i> L. (N. Cameroons; R. Benue)	319, 1031	Western Tropical Africa generally; Niamniam; Brazil.

## SCROPHULARIACEÆ.

<i>Lindernia diffusa</i> Wettst.	315	Guinea; Lower Congo; Madagascar; Tropical America.
<i>Scoparia dulcis</i> L.	314	Cosmopolitan in the tropics.
<i>Alectra senegalensis</i> Benth.	317	Upper Guinea; Mozambique district.
<i>Buchnera longifolia</i> Klotzsch (Garua to Golombe)	325	Upper Guinea; Eritrea; Uganda; Mozambique dis- trict.
<i>Striga brachycalyx</i> Skan	1033	Northern Nigeria.
<i>S. Thunbergii</i> Benth. (N. Cameroons)	323	Angola; British Central Africa; South Africa.
<i>S. hermonthica</i> Benth. (R. Benue)	310	Nile Land; Congo Free State; Amboland; Egypt and Arabia.
<i>S. senegalensis</i> Benth.	308	Upper Guinea; Abyssinia; Amboland; Mozambique.
<i>S. lutea</i> Lour.	309, 1034	Tropical Africa; South Africa; Mascarenes; Tro- pical Asia.
<i>S. macrantha</i> Benth. (Lere to Ham)	324	Upper Guinea; Angola.
<i>S. Warneckei</i> Engl. (Bogalo, R. Benue)	312	Togo.
<i>Rhamphicarpa fistulosa</i> Benth. (Lere to Ham)	323	Tropical Africa; South Africa; Madagascar.
<i>Sopubia ramosa</i> Hochst.	316	Tropical Africa.

## LENTIBULARIACEÆ.

<i>Utricularia striatula</i> Smith (Lere to Ham)	Upper Guinea; German East Africa; Tropical Asia.
<i>U. reflexa</i> Oliver (Lere to Ham)	Tropical Africa.
<i>U. stellaris</i> Linn. f. (Lere to Ham)	Tropical and South Africa; Madagascar; India to Tropical Australia.

\* River Benue, N. Nigeria.

† French Congo.

‡ N. Cameroons.

§ Lake Chad and Bornu.

NAME.	NUMBER.	DISTRIBUTION.
BIGNONIACEÆ.		
<i>Stereospermum Kunthianum</i> Cham. (Tuburi Marsh; Lake Chad)	328, 342	Generally distributed over Tropical Africa, excepting Lower Guinea.
<i>Newbouldia lævis</i> Seem.	2056	Upper Guinea; St. Thomas; Gaboon; Congo Free State.
<i>Markhamia tomentosa</i> K. Sch.	2055	Upper Guinea.
<i>Spathodea campanulata</i> Beauv.	31A	Upper and Lower Guinea; Congo Free State.
<i>Kigelia africana</i> Benth.	34, 185, 199A, 1016	Upper Guinea.
<i>K. acutifolia</i> Sprague	115	Cameroons.
PEDALINEÆ.		
<i>Sesamum radiatum</i> Schum.	1057	Upper Guinea.
<i>S. alatum</i> Thonn. (Garua to Golombe)	327	Upper Guinea; Nile and Mozambique districts.
<i>S. Talbotii</i> Wernham sp. nov.	1036	
ACANTHACEÆ.		
<i>Afromendoncia iodoides</i> S. Moore sp. nov.	388	
<i>Thunbergia Vogeliana</i> Benth.	387	Cameroons; Fernando Po.
<i>T. cynanchifolia</i> Benth.	988	French Guinea to Cameroons.
<i>Elytraria crenata</i> Vahl	386	Tropical Africa and Asia.
<i>Nelsonia campestris</i> R. Br.	2001	Throughout the tropics.
<i>Zenkerina kamerunensis</i> Engl.	2004	Cameroons.
<i>Brillantaisia Lamium</i> Benth.	981	Sierra Leone to Congo Free State.
<i>B. Talbotii</i> S. Moore sp. nov.	2000	
<i>B. nitens</i> Lindau	54A, 99A	Sierra Leone to Congo.
<i>B. owariensis</i> Beauv.	1393	South Nigeria; Cameroons.
<i>Endosiphon obliquus</i> C. B. Clarke	979	French Congo.
<i>Paulowilhelmia togoensis</i> Lindau	10	Togo; Nigeria.
<i>Physacanthus Talbotii</i> S. Moore sp. nov.	972	
<i>Dischistocalyx obanensis</i> S. Moore sp. nov.	73, 1485	
<i>D. ruellioides</i> S. Moore sp. nov.	385, 1527	
<i>D. thunbergiæflorus</i> Benth.	2050	Fernando Po.
<i>Whitfieldia longifolia</i> T. And.	992, 2009	Tropical Africa.
<i>Iankesteria thyrsoidea</i> S. Moore sp. nov.	8, 147, 1646	
<i>L. elegans</i> T. And.	2002	Gold Coast to French Congo.
<i>L. Barteri</i> Hook. fil.	23, 1531	Nigeria to Congo Free State.
<i>Phaylopsis longifolia</i> T. Thoms.	994	Tropical Africa.
<i>P. Talbotii</i> S. Moore sp. nov.	977	
<i>Blepharis pinguior</i> C. B. Clarke (North Cameroons)	1022	Nyasaland.

NAME.	NUMBER.	DISTRIBUTION.
<i>Crossandrella Dusenii</i> S. Moore	17A	Cameroons to Uganda.
<i>Acanthus montanus</i> T. And.	1027, 2006	Tropical Africa.
<i>Crossandra guineensis</i> Nees	101, 134, 846	Nigeria to Uganda.
<i>C. Talbotii</i> S. Moore sp. nov.	1026	
<i>C. elatior</i> S. Moore sp. nov.	101	
<i>Thomandersia laurifolia</i> Baill.	381	Nigeria to Congo.
<i>Talbotia radicans</i> S. Moore gen. & sp. nov.	971	
<i>Lepidagathis laguroidea</i> T. And.	984, 2003	North Tropical Africa.
<i>Asystasia parvula</i> C. B. Clarke	989, 1029, 1503	Somali Land and British East Africa to Nigeria.
<i>A. dryadum</i> S. Moore sp. nov.	991	
<i>A. Vogeliana</i> Benth.	990	Ashanti to Congo.
<i>A. macrophylla</i> Lindau	2010	Cameroons; French Congo.
<i>Filetia africana</i> Lindau	380, 985	Cameroons; French Congo.
<i>Barleria Talbotii</i> S. Moore sp. nov.	1396	
<i>B. bornuensis</i> S. Moore sp. nov. (N. Nigeria)		
<i>Eranthemum nigritianum</i> T. And.	1356, 1392, 1436, 1448, 1538	Sierra Leone to Uganda and Angola.
<i>E. hypocrateriforme</i> Roem. & Schult.	1552	Sierra Leone to Cameroons.
<i>E. Ludovicianum</i> Büttn.	379, 1423, 1437	Ashanti to Uganda and Congo Free State.
<i>Justicia tenella</i> T. And.	378	Senegambia to German East Africa and Madagascar.
<i>J. insularis</i> T. And.	983	Sierra Leone to French Congo.
<i>J. Galeopsis</i> T. And.	1024	North Tropical Africa.
<i>J. laxa</i> T. And.	70, 102, 978	Cameroons to French Congo.
<i>J. thyrsoflora</i> S. Moore sp. nov.	976	
<i>J. Talbotii</i> S. Moore sp. nov.	1425	
<i>J. nigerica</i> S. Moore sp. nov.	995, 2008	
<i>J. tenuipes</i> S. Moore sp. nov.	1483	
<i>Adhatoda orbicularis</i> C. B. Clarke	975, 2007	Cameroons.
<i>A. tristis</i> Nees	50, 996	Cameroons.
<i>A. auriculata</i> S. Moore sp. nov.	2011	Cameroons ( <i>Zenker</i> , 4395).
<i>A. Buchholzii</i> S. Moore	372, 1025, 2076	Cameroons.
<i>A. maculata</i> C. B. Clarke	1405	Cameroons; Fernando Po.
<i>Rhinacanthus parviflorus</i> T. And.	1365	Cameroons; Congo Free State.
<i>Graptophyllum glandulosum</i> Turrill	377	S. Nigeria; Cameroons.



NAME.	NUMBER.	DISTRIBUTION.
<i>Scaueria populifolia</i> C. B. Clarke	993	Cameroons.
<i>Hypoestes Talbotiæ</i> S. Moore sp. nov.	2005	
<i>H. Barteri</i> T. And.	2020	Nigeria ; Cameroons.
<i>H. Staudtii</i> Lindau	982, 1409, 2019	Cameroons.
<i>H. verticillaris</i> R. Br.	1373	Tropical and South Africa ; Arabia.
<i>Rungia grandis</i> T. And.	1394	Sierra Leone to Angola.
<i>R. dimorpha</i> S. Moore sp. nov.	1528	
<i>R. congoensis</i> C. B. Clarke	1391	Cameroons ; Congo Land.
<i>Dicliptera obanensis</i> S. Moore sp. nov.	1363	

## VERBENACEÆ.

<i>Lantana salvifolia</i> Jacq. forma <i>magnibracteata</i> (R. Benue)	352	Generally in the tropics of Africa and India, and in South Africa.
<i>Lippia adoensis</i> Hochst. (French Ubangi)	322	Upper and Lower Guinea to Abyssinia and British East Africa.
<i>Stachytarpheta angustifolia</i> Vahl	353	Upper Guinea ; Angola ; Congo Free State.
<i>S. indica</i> Vahl	307	Widely distributed in the tropics.
<i>Clerodendron bipindense</i> Gürke	1530, 2058	Cameroons.
<i>C. Barteri</i> Baker (forma <i>longepetiolata</i> )	1491	S. Nigeria.
<i>C. splendens</i> G. Don	1051	Upper and Lower Guinea.
<i>C. Buchholzii</i> Gürke	340, 2059	Cameroons ; Gaboon ; Uganda.
<i>C. Buettneri</i> Gürke	118	Cameroons ; Gaboon.
<i>C. scandens</i> Beauv.	14A	Upper Guinea.
<i>C. melanophyllum</i> S. Moore	181, 354	Uganda.
<i>C. Talbotii</i> Wernham sp. nov.	341	
<i>C. obanense</i> Wernham sp. nov.	2081	
<i>Vitex oxycephala</i> Baker	2061	Nigeria.
<i>V. bipindensis</i> Gürke	1412, 2057	Cameroons.
<i>V. bogalensis</i> Wernham sp. nov. (N. Cameroons)	1046	
<i>V. obanensis</i> Wernham sp. nov.	1044	

## LABIATÆ.

<i>Ocimum americanum</i> L.	214, 367	Tropics generally.
<i>Platystoma africanum</i> Beauv.	969, 2065	Tropical Africa ; India.
<i>Acrocephalus polytrichus</i> Baker	968	Niger region.
<i>Hoslundia opposita</i> Vahl (R. Benue)	370	Tropical and South Africa ; Madagascar.
<i>Æolanthus pubescens</i> Benth. (R. Benue)	1032	Upper Guinea.
<i>Coleus decurrens</i> Gürke	369	Cameroons.

NAME.	NUMBER.	DISTRIBUTION.
<i>Solenostemon ocyroides</i> Schum. & Thonn.	363, 2066	Guinea to Angola.
<i>Hyptis brevipes</i> Poit.	344, 366	Tropical Africa, Asia and America.
<i>H. pectinata</i> Poit.	371	Widely spread in tropics; native of America.
<i>Leonotis pallida</i> Benth.	2064	Upper Guinea; Nyasaland; Nile Land.

## MONOCHLAMYDEÆ.

By SPENCER MOORE.

NAME.	NUMBER.	DISTRIBUTION.
AMARANTACEÆ.		
<i>Celosia argentea</i> L.	138, 139A	Tropical Africa and Asia.
<i>C. trigyna</i> L.	179A, 660	Tropical Africa; also in Madagascar and Arabia.
<i>Amaranthus spinosus</i> L.	601	Tropical Africa; India.
<i>Ærva lanata</i> Juss.	602	Tropical Africa and Asia.
<i>Æ. tomentosa</i> Forsk.	92A	Tropical Africa and North Africa to India.
<i>Achyranthes bidentata</i> Bl.	2311	Cameroons and Angola to Nyasaland.
<i>A. aquatica</i> R. Br. (N. Cameroons)	150A	Nubia; India.
<i>Pandiaka involuerata</i> Hook. fil. (River Benue)	679A	Togo Land to Nigeria.
<i>P. Heudelotii</i> Hook. fil. (R. Benue; N. Cameroons)	612A, 659A	Tropical Africa.
<i>Gomphrena globosa</i> L. (R. Benue)	79A, 662	An American plant naturalised in the Old World.
POLYGONACEÆ.		
<i>Brunnichia africana</i> Welw. var. <i>glabra</i> Dammer	1497	Liberia to Angola.
PHYTOLACCACEÆ.		
<i>Mohlana nemoralis</i> Mart.	661	Tropical Africa; Madagascar; Tropical America.
<i>Phytolacca dodecandra</i> L'Hérit.	1381	Tropical Africa; Natal.
ARISTOLOCHIACEÆ.		
<i>Aristolochia tribrachiata</i> S. Moore sp. nov.	213, 1542	
<i>A. Talbotii</i> S. Moore sp. nov. and var. <i>longissima</i>	128, 2310 1642	
<i>A. tenuicauda</i> S. Moore sp. nov.	2318	
<i>A. Goldieana</i> Hook. f.	2338, 2339, 2340, 2341	Sierra Leone; Nigeria; Fernando Po.

NAME.	NUMBER.	DISTRIBUTION.
PIPERACEÆ.		
<i>Piper umbellatum</i> L.	172	Widely distributed in the tropics.
<i>P. guineense</i> Schum. & Thonn.	2329	Tropical Africa.
<i>Peperomia fernandopoiana</i> C.DC.	2324	Cameroons; Fernando Po.
MYRISTICACEÆ.		
<i>Pycnanthus microcephala</i> Stapf	53	Fernando Po.
<i>Scyphocephalum Mannii</i> Warb.	1507, 1673	Nigeria; Cameroons.
MONIMIACEÆ.		
<i>Glossocalyx longicuspis</i> Benth.	84	Cameroons; French Congo.
LAURINEÆ.		
<i>Tylostemon minutiflorus</i> Stapf	1495A, 2301	French Congo.
<i>T. Talbotiæ</i> S. Moore sp. nov.	1539	
<i>T. myrciæfolius</i> S. Moore sp. nov.	2334	
<i>T. foliosus</i> S. Moore sp. nov.	2342	
THYMELÆACEÆ.		
<i>Dicranolepis stenosisiphon</i> Gilg	42A, 1508, 2312	Cameroons.
<i>D. grandiflora</i> Engl.	21A	Gold Coast to Cameroons.
LORANTHACEÆ.		
<i>Loranthus kamerunensis</i> Engl.	606	Cameroons.
<i>L. nigritanus</i> Hook. fil.	1572	Nigeria; Cameroons.
<i>L. Braunii</i> Engl.	1522	Nigeria to Congo Land.
<i>L. dodoneifolius</i> DC. (N. Cameroons)	121A	Senegambia to Nigeria; Uganda.
<i>L. bangwensis</i> Engl. & K. Krause	605	Senegambia to Cameroons.
<i>Viscum decurrens</i> Baker & Sprague	669	Nigeria to Congo Free State.
<i>V. grandifolium</i> Engl.	604	Cameroons.
BALANOPHORACEÆ.		
<i>Thonningia sanguinea</i> Vahl	1590A	Sierra Leone to Congo.
EUPHORBIACEÆ.		
<i>Euphorbia cervicornu</i> Baill.	2309	Nigeria to Congo.
<i>Dichostema glaucescens</i> Pierre	2328	Cameroons to Belgian Congo.
<i>Bridelia micrantha</i> Baill.	2331	Tropical Africa.
<i>Uapaca guineensis</i> Müll. Arg.	652, 671	Sierra Leone to Uganda.
<i>Antidesma laciniatum</i> Müll. Arg.	665, 676, 2336, 2337	Nigeria to Congo Free State.

NAME.	NUMBER.	DISTRIBUTION.
<i>A. membranaceum</i> Müll. Arg.	611, 612, 670	Sierra Leone to Congo Land.
<i>Protomegabaria Stapfiana</i> Hutchins.	2325, 2326	Ivory Coast to French Guinea.
<i>Thecacoris gymnogynae</i> Pax	1496, 1503	Cameroons; French Congo.
<i>Mæsobotrya Dusenii</i> Hutchins.	11, 16, 609, 1581	Cameroons to French Congo.
<i>M. sparsiflora</i> Hutchins.	1492	Sierra Leone to Gold Coast.
<i>M. Barteri</i> Hutchins.	637, 638	Nigeria to Spanish Guinea.
<i>M. Griffoniana</i> Hutchins.	186	French Congo.
<i>M. pauciflora</i> Pax	616, 1683	Cameroons to Congo.
<i>Drypetes similis</i> Hutchins.	619, 1495	Cameroons.
<i>D. inæqualis</i> Hutchins.	678	Sierra Leone.
<i>D. principum</i> Hutchins.	679	Princes Island.
<i>D. stipularis</i> Hutchins.	1645, 2337	Spanish Guinea.
<i>D. Talbotii</i> S. Moore sp. nov.	8	
<i>D. obanensis</i> S. Moore sp. nov.	677, 2310	
<i>Phyllanthus floribundus</i> Müll. Arg.	622, 1509, 1509A	Tropical Africa.
<i>P. Dusenii</i> Hutchins.	2323	Cameroons.
<i>P. odontadenius</i> Müll. Arg.	623	Gold Coast to Angola.
<i>Microdesmis puberula</i> Hook. fil.	681	Senegambia to Nigeria.
<i>M. Zenkeri</i> Pax	692, 692A	Cameroons to Angola.
<i>Jatropha curcas</i> L.	1321, 1372, 1499	America; widely cultivated in Old World.
<i>Ricinodendron africanus</i> Müll. Arg.	2333	Tropical Africa.
<i>Croton amabilis</i> Müll. Arg.	109, 153, 2302	Sierra Leone to Nigeria.
<i>Cyrtogonone argentea</i> Prain	1590	Cameroons; Spanish Guinea.
<i>Manniophyton africanum</i> Müll. Arg.	180, 614	Sierra Leone to Belgian Congo and Angola.
<i>Crotonogyne strigosa</i> Prain (sp. nov. in Kew Bull. 1912, 191)	659	
<i>C. Preussii</i> Pax	691, 694	Cameroons.
<i>Hasskarlia oppositifolia</i> Pax	640	Liberia.
<i>Erythrococca Welwitschiana</i> Prain	663	Cameroons to Angola.
<i>Claoxylon hexandrum</i> Müll. Arg.	1352, 1352A	Fernando Po; Cameroons; Belgian Congo.
<i>Acalypha paniculata</i> Miq.	693	Tropical Africa; India.
<i>Mareya spicata</i> Baill.	617	Senegambia to Belgian Congo.
<i>M. micrantha</i> Müll. Arg.	45, 667, 2303	Nigeria to French Congo.
<i>Alchornea cordata</i> Benth.	12, 682, 1319	Tropical Africa.
<i>A. floribunda</i> Müll. Arg.	2304, 2305	Nigeria to Belgian Congo.
<i>Mallotus subulatus</i> Müll. Arg.	621, 623, 655	Guinea Coast to Belgian Congo.
<i>M. oppositifolius</i> var. <i>glabrata</i> Müll. Arg.	697	Tropical Africa; Madagascar.
<i>Cleidion Preussii</i> Baker	615	Cameroons.



NAME.	NUMBER.	DISTRIBUTION.
<i>Macaranga occidentalis</i> Müll. Arg.	1431*	Cameroons; Fernando Po.
<i>M. Paxii</i> Prain	610	S. Nigeria; Cameroons.
<i>M. rosea</i> Pax	112, 1377	Cameroons to Belgian Congo and Angola.
<i>M. Zenkeri</i> Pax	2311, 2366	S. Nigeria to Belgian Congo.
<i>Plukenetia conophora</i> Müll. Arg.	1509, 2306, 2307	Sierra Leone to Belgian Congo.
<i>Dalechampia ipomœæfolia</i> Benth.	683	Liberia to Belgian Congo.
<i>Pycnocomma macrophylla</i> Benth.	33A, 699	Cameroons to Belgian Congo.
<i>Tragia Benthami</i> Baker	613	Tropical Africa.
<i>T. Zenkeri</i> Pax var. <i>nigritana</i> Prain	1494	Cameroons to Uganda.
<i>T. Preussii</i> Pax	624	Cameroons.
<i>Sapium guineense</i> O. Kuntze	666	Sierra Leone to Cameroons and Princes Island.
URTICACEÆ.		
<i>Trema guineensis</i> Priem. var. <i>parvifolia</i> Engl.	688	Tropical Africa; Madagascar.
<i>Treculia obovoidea</i> N. E. Br. (T. Staudtii Engl.).	2316A, 2321, 2335	S. Nigeria; Cameroons.
<i>Urera cameroonensis</i> Wedd.	1501	Cameroons to Uganda.
<i>Bœhmeria platyphylla</i> Don	686	Tropical Africa to East Indies and Polynesia.
<i>Pouzolzia guineensis</i> Benth.	689	Senegambia to Congo Land.

## MONOCOTYLEDONS.

By Dr. A. B. RENDLE; Zingiberaceæ and Marantaceæ, by  
H. N. RIDLEY.

NAME.	NUMBER.	DISTRIBUTION.
BURMANNIACEÆ.		
<i>Gymnosiphon squamatus</i> Wright	700, 715	West Tropical Africa.
<i>G. congestus</i> Wright	716	Cameroons.
ORCHIDACEÆ.		
<i>Liparis guineensis</i> Lindl.	777	West Tropical Africa.
<i>L. tridens</i> Kränzl.	872, 873	Cameroons.
<i>L. epiphytica</i> Schlechter	871	Cameroons.

\* In Fl. Trop. Afr. vi. pt. 1, 936, this number by an evident oversight has been referred to *M. rosea* Pax.

NAME.	NUMBER.	DISTRIBUTION.
<i>Bulbophyllum fuscum</i> Lindl.	925	Sierra Leone ; Cameroons.
<i>B. nudiscapum</i> Rolfe	779	Sierra Leone ; Congo.
<i>B. viride</i> Rolfe	955	Sierra Leone.
<i>B. Amauryæ</i> Rendle sp. nov.	952	
<i>B. Buntingii</i> Rendle sp. nov.	935	Liberia.
<i>B. nigritianum</i> Rendle sp. nov.	933	
<i>B. Talbotii</i> Rendle sp. nov.	931	
<i>B. Dorotheæ</i> Rendle sp. nov.	934	
<i>B. phæopogon</i> Schlechter	778	Cameroons.
<i>B. obanense</i> Rendle sp. nov.	932	
<i>Megaclinium Millenii</i> Rolfe	1576	Lagos.
<i>Ancistrochilus Thomsonianus</i> Rolfe	88	Cameroons.
<i>Eulophia euglossa</i> Reichb. fil.	162	West Tropical Africa.
<i>E. lurida</i> Lindl.	772	West Tropical Africa.
<i>Ansellia africana</i> Lindl.	954	Fernando Po ; Congo.
<i>Polystachya pyramidalis</i> Lindl.	903	S. Nigeria ; Liberia (R. H. Bunting).
<i>P. laxiflora</i> Lindl.	865	Upper Guinea ; Gaboon.
<i>P. obanensis</i> Rendle sp. nov.	930	
<i>P. tessellata</i> Lindl.	862, 863	West Tropical Africa.
<i>P. Dorotheæ</i> Rendle sp. nov.	861	
<i>P. ramulosa</i> Lindl.	864	Sierra Leone ; Ashanti ; Congo.
<i>P. Adansonie</i> Reichb. fil.	867	Cameroons ; Angola.
<i>P. polychæta</i> Kränzl.	927, 928	Cameroons ; Congo ; Victoria Nyanza.
<i>P. nigerica</i> Rendle sp. nov.	929	
<i>P. supfiana</i> Schlechter	866	Cameroons.
<i>P. Preussii</i> Kränzl.	919	Cameroons.
<i>P. Talbotii</i> Rolfe	835	
<i>P. seticaulis</i> Rendle sp. nov.	926	
<i>Angræcum Eichlerianum</i> Kränzl.	899	Cameroons ; South Central Africa.
<i>A. obanense</i> Rendle sp. nov.	896	
<i>A. muriculatum</i> Rendle sp. nov.	904	
<i>A. cæspitosum</i> Rolfe	891	Cameroons.
<i>A. scandens</i> Schlechter	893	Cameroons.
<i>A. brunneo-maculatum</i> Rendle sp. nov.	943	
<i>A. Straussii</i> Schlechter	940	Cameroons.
<i>A. angustipetalum</i> Rendle sp. nov.	890	
<i>A. Egertonii</i> Rendle sp. nov.	889	
<i>A. Batesii</i> Rendle ( <i>Mystacidium Batesii</i> Rolfe)	897	Cameroons.
<i>A. curvatum</i> Schlechter	938	Ashanti.
<i>A. distichum</i> Lindl.	784	Sierra Leone to Gaboon.
<i>A. podochiloides</i> Schlechter	894	Cameroons.
<i>A. Schumannii</i> Kränzl.	895	Cameroons.

NAME.	NUMBER.	DISTRIBUTION.
<i>Angræcum multinominatum</i> Rendle	888	Upper Guinea.
<i>A. caudatum</i> Lindl.	898	Sierra Leone; Niger; Congo.
<i>A. Chailluanum</i> Hook. fil.	119, 135, 901	West Tropical Africa.
<i>A. Aschersonii</i> Kränzl.	936	Cameroons.
<i>A. bidens</i> Rendle ( <i>Listrostachys bidens</i> Rolfe)	912, 913	Upper Guinea.
<i>A. Dorotheæ</i> Rendle sp. nov.	914, 915	
<i>A. pertusum</i> Lindl.	916	Upper Guinea.
<i>A. pellucidum</i> Lindl.	900	Upper Guinea; Congo.
<i>A. Talbotii</i> Rendle sp. nov.	941	
<i>A. subulatum</i> Lindl.	902	Upper Guinea; Congo.
<i>A. pungens</i> Schlechter	892	Cameroons.
<i>Vanilla nigerica</i> Rendle sp. nov.	776	
<i>Zeuxine Batesii</i> Rolfe	920, 921	Cameroons; Gaboon.
<i>Z. elongata</i> Rolfe	2408	Sierra Leone; Princes Is.; Congo.
<i>Z. Stammleri</i> Schlechter	922	Cameroons.
<i>Cheirostylis lepida</i> Rolfe	870	Cameroons; St. Thomas Is.
<i>Platylepis Talbotii</i> Rendle sp. nov.	1463	
<i>Auxopus kamerunensis</i> Schlechter	1450	Cameroons.
<i>Maniella Gustavi</i> Reichb. fil.	1339	Cameroons; St. Thomas Is.
<i>Platanthera helleborina</i> Rolfe	869	Sierra Leone.
<i>Habenaria procera</i> Lindl.	773	Sierra Leone; Congo.
<i>H. Weileriana</i> Schlechter	868	Cameroons.
<i>H. Buntingii</i> Rendle sp. nov.	774	Liberia.
<i>H. barrina</i> Ridl.	923	St. Thomas Is.
<i>H. macrandra</i> Lindl.	775	Upper Guinea; Angola.

## ZINGIBERACEÆ.

<i>Aframomum pilosum</i> Oliver. & Hanbury	94	Cameroons.
<i>A. sceptrum</i> K. Schum.	85, 1594, 1605	Cameroons; Lower Guinea.
<i>A. cereum</i> K. Schum.	83	Sierra Leone.
<i>A. Daniellii</i> K. Schum.	14	Cameroons to Congo.
<i>A. biauriculatum</i> K. Schum.	32, 33	Angola.
<i>A. citratum</i> Pereira	90	Cameroons; Gaboon.
<i>Renealmia africana</i> Benth.	1652	Cameroons; Gaboon; Angola.
<i>R. cincinnata</i> Baker	876	Cameroons; Gaboon.
<i>Costus Lucanusianus</i> Braun & K. Schum.	840	Cameroons; Congo.
<i>C. Dinklagei</i> K. Schum.	839	Cameroons.
<i>C. Englerianus</i> K. Schum.	885	Sierra Leone; Cameroons.
<i>C. Talbotii</i> Ridl. sp. nov.	90, 1521	Cameroons.

NAME.	NUMBER.	DISTRIBUTION.
<b>MARANTACEÆ.</b>		
<i>Sarcophrynium oxycarpum</i> K. Schum.	880	Cameroons ; Congo.
<i>S. prionogonium</i> K. Schum.	877	Cameroons.
<i>S. brachystachyum</i> K. Schum.	883	West Tropical Africa.
<i>Hybophrynium Braunianum</i> K. Schum.	874	West Tropical Africa.
<i>Trachyprynium violaceum</i> Ridl.	883A	West Tropical Africa.
<i>Phrynium confertum</i> K. Schum.	884	Cameroons ; Congo ; Angola.
<i>Halopegia azurea</i> K. Schum.	57	Niamniam ; Cameroons ; Congo ; Gaboon.
<i>Clinogyne purpurea</i> Ridl.	882	Angola.
<i>C. flexuosa</i> K. Schum.	92, 93	Sierra Leone.
<i>C. filipes</i> Benth.	881	Upper Guinea ; Cameroons.
<i>C. holostachya</i> K. Schum.	875	Cameroons ; Gaboon.
<i>Thalia Welwitschii</i> Ridl. (Lere to Ham, French Ubangi & R. Benue)	878, 879	Angola.
<b>HÆMODORACEÆ.</b>		
<i>Sansevieria Laurentii</i> De Wild.	2406	Belgian Congo (Stanleyville).
<i>Cyanastrum cordifolium</i> Oliver	911	West Tropical Africa.
<b>AMARYLLIDACEÆ.</b>		
<i>Crinum purpurascens</i> Herb.	907	Corisco Island ; Congo.
<i>C. giganteum</i> Andr.	905	Tropical Africa.
<b>DIOSCOREACEÆ.</b>		
<i>Dioscorea bulbifera</i> L.	181, 717	Cultivated.
<i>D. hirtiflora</i> Benth.	718, 722, 724	West Tropical Africa.
<i>D. polyantha</i> Rendle	781	Angola.
<i>D. Preussii</i> Pax	780	Cameroons ; Congo ; Angola.
<i>D. prehensilis</i> Benth. (also R. Benue)	738, 721, 723, 726, 727, 728	Tropical Africa.
<i>D. minutiflora</i> Engl.	720, 782	West Tropical Africa ; Congo.
<b>LILIACEÆ.</b>		
<i>Smilax Kraussiana</i> Meissn.	701	Tropical and South Africa.
<i>Asparagus Pauli - Guelmi</i> Solms (Lake Chad & Bornu)	733	Tropical Africa.
<i>Dracæna arborea</i> Link	740	West Tropical Africa ; Congo.
<i>D. Talbotii</i> Rendle sp. nov.	1532	
<i>D. fragrans</i> Gawl.	1412	Tropical Africa.
<i>D. camerooniana</i> Baker	730	West Tropical Africa.
<i>D. surculosa</i> Lindl.	146	Upper Guinea.
<i>D. Godseffiana</i> Sander	1421	Lagos.



NAME.	NUMBER.	DISTRIBUTION.
<i>Dracæna elliptica</i> Thunb. & Dalm.	2405	Tropical Africa ; Tropical Asia.
<i>D. cylindrica</i> Hook. fil.	2404	Calabar.
<i>Chlorophytum Afzelii</i> Baker	858	Sierra Leone.
<i>C. alismæfolium</i> Baker	859	Cameroons ; Gaboon.
<i>C. Talbotii</i> Rendle sp. nov.	731	
<i>C. petiolatum</i> Baker	732	Cameroons.
<i>C. debile</i> Baker	860	West Tropical Africa.
<i>Urginea micrantha</i> Solms (Lake Chad & Bornu)	736	Tropical Africa.
<i>Gloriosa superba</i> L.	783	Tropical Africa ; Tropical Asia.

## COMMELINACEÆ.

<i>Pollia condensata</i> C. B. Clarke	743, 744	Tropical Africa.
<i>Palisota bracteosa</i> C. B. Clarke	741	Upper Guinea ; St. Thomas Is.
<i>P. Barteri</i> Hook. fil.	908	Cameroons ; Congo.
<i>P. ambigua</i> C. B. Clarke	746	West Tropical Africa ; Congo.
<i>P. thyrsiflora</i> Benth.	747	West Tropical Africa.
<i>Commelina nudiflora</i> L.	758	A tropical weed.
<i>C. benghalensis</i> L.	759	Old World tropics.
<i>C. Forskalæi</i> Vahl	760	Tropical Africa to India.
<i>C. capitata</i> Benth.	910	Tropical Africa.
<i>Polyspatha paniculata</i> Benth.	748	Upper Guinea ; Congo.
<i>Aneilema sinicum</i> Lindl.	752, 753	Tropical and South Africa ; Tropical Asia.
<i>A. beniniense</i> Kunth	751	Tropical Africa.
<i>A. ovato-oblongum</i> Beauv.	755	West Tropical Africa ; Congo ; Tropical South America.
<i>Cyanotis lanata</i> Benth.	749	Tropical Africa.
<i>Floscopa africana</i> C. B. Clarke	909	West Tropical Africa ; Congo.
<i>F. Mannii</i> C. B. Clarke	756	Gaboon.

## PALMACEÆ.

<i>Raphia monbuttorum</i> Drude	948	East and Central Tropical Africa.
<i>Eremospatha macrocarpa</i> Wendl.	1446	Sierra Leone ; Nigeria.

## ARACEÆ.

<i>Amorphophallus dracontoides</i> N. E. Br. (Lake Chad & Bornu)	763	Upper Guinea.
<i>A. accrensis</i> N. E. Br.	886	Gold Coast.
<i>Anchomanes difformis</i> Engl.	2407	Tropical Africa.
<i>A. nigratianus</i> Rendle sp. nov.	1247	
<i>Nephtytis Poissonii</i> N. E. Br.	767	Cameroons ; Gaboon.
<i>N. Talbotii</i> Rendle sp. nov.	766	
<i>Rhektophyllum mirabile</i> N. E. Br.	98	West and Central Tropical Africa.
<i>Culcasia striolata</i> Engl.	946, 1532	Cameroons
<i>Cercestis Afzelii</i> Schott	766, 1261	Upper Guinea.

NAME.	NUMBER.	DISTRIBUTION.
<i>Cercestis Dinklagei</i> Engl.	1593	Liberia; Cameroons; Gaboon.
<i>Anubias Afzelii</i> Schott	2409	Sierra Leone.
<i>A. lanceolata</i> N. E. Br.	768	S. Nigeria; Cameroons.
<i>Amauriella obanensis</i> Rendle gen. & sp. nov.	1532	
<i>Raphidophora pusilla</i> N. E. Br.	1575	Gaboon.
ALISMACEÆ.		
<i>Limnophyton fluitans</i> Graebner	708	Cameroons.
ERIOCAULACEÆ.		
<i>Eriocaulon bifistulosum</i> Van Heurck & Müll. Arg. (Lere to Ham)	712	Tropical Africa; Madagascar.
<i>E. elegantulum</i> Engl. (Tuburi Marshes)	711	Central and East Tropical Africa.
CYPERACEÆ.		
<i>Cyperus fertilis</i> Bœck.	2400	West and Central Tropical Africa.
<i>Hypolytrum africanum</i> Nees	2401	West and Central Tropical Africa.
<i>Mapania amplivaginata</i> K. Schum.	714	Cameroons.
<i>Scleria ovuligera</i> Nees	855	West and Central Tropical Africa.
GRAMINEÆ.		
<i>Sorghum halepense</i> Nees	846	Widely distributed.
<i>S. vulgare</i> Pers.	841	Widely cultivated.
<i>Isachne Buettneri</i> Hack.	769	West Tropical Africa.
<i>Panicum brizanthum</i> Hochst.	852	Tropical Africa.
<i>P. crus-pavonis</i> Nees	850	Tropical Africa; Tropical America.
<i>P. arborescens</i> L.	770	Tropical Africa; Tropical Asia.
<i>P. uncinatum</i> Raddi	851	Widely spread in Tropics.
<i>Setaria mauritiana</i> Spreng.	848	Widely spread in Tropics.
<i>Oplismenus africanus</i> Beauv.	849	Tropical Africa; Tropical America.
<i>Pennisetum setosum</i> A. Rich.	847	Widely spread in tropics.
<i>Olyra latifolia</i> L.	844	Tropical and South Africa; Tropical America.
<i>Leptaspis cochleata</i> Thwaites	951	Tropical Africa; Comoro Is.; Ceylon.
<i>Sporobolus indicus</i> R. Br.	845	Tropical and South Africa.
<i>Trichopterix simplex</i> Benth.	843	Tropical and South Africa.
<i>Centotheca lappacea</i> Desv.	842	Old World tropics.
<i>Streptogyne crinita</i> Beauv.	856	Tropics of Africa and Ame- rica; India.
<i>Guaduelia Ledermannii</i> Pilger	956	Cameroons.
<i>G. Zenkeri</i> Pilger	957	Cameroons.

## FERN S.

By ANTONY GEPP, M.A., F.L.S.

NAME.	FILICALES.	DISTRIBUTION.
Gleichenia dichotoma Willd.		Tropics and sub-tropics.
Hymenophyllum emersum Baker		East African islands; Ceylon.
H. polyanthos Sw.		Tropical Africa and America.
Pteris quadriaurita Retz.		Tropics and sub-tropics.
Asplenium vagans Baker		St. Thomas Is. ; Madagascar.
A. (Anisogonium) decussatum Sw.		Tropics of the Old World.
Nephrodium (Lastrea) subquinquefida Hook. var. securidiforme Hook.		Tropical Africa.
N. (Lastrea) albopunctatum Desv.		Tropical Africa; Mascarene Is. ; Amboyna; Fiji.
Nephrolepis exaltata Schott		Tropics.
N. ramosa Moore		Tropics of the Old World.
Polypodium (Dictyopteris) sparsi- florum Hook.		West Tropical Africa.
P. (Phymatodes) lycopodioides L.		Tropical Africa and America.
Antrophyum Mannianum Hook.		Tropical Africa.
Acrostichum (Stenochlæna) sorbifo- lium L.		Tropics.
A. (Chrysodium) Heudelotii Hook.		Tropical Africa.
Lygodium Smithianum Presl (L. pin- natifidum Baker)		West Tropical Africa.
Platyserium stemaria Desv.		Tropical Africa; Madagascar.
Marattia fraxinea Smith		Asia; Africa; Tropical Australia.
Azolla pinnata R. Br. (River Benue; North Cameroons)		Tropical Asia and Africa; Aus- tralia.

## LYCOPODIALES.

Lycopodium gnidioides Linn. fil.	South Africa; Mascarene Is.
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## MOSSES.

By ANTONY GEPP.

NAME.	DISTRIBUTION.
Macromitrium levatum Mitt.	Cameroons.
Pilotrichella sordido-viridis C. Muell.	Cameroons.

## F U N G I.

By J. RAMSBOTTOM.

## ASCOMYCETES.

NAME.	DISTRIBUTION.
DISCOMYCETES	
Trichoscypha Hindsii Berk.	Indo-China; Africa; Neotropica; Oceania.
PYRENOAMYCETES	
*Hypoxylon coccineum Bull.	Universal.

## BASIDIOMYCETES.

*Hymenomyces.*

AGARICACEÆ	
*Marasmius ferrugineus Berk.	Africa; Neotropica; Oceania.
Lentinus velutinus Fr.	Indo-China; Africa.
L. Tuber-regium Fr.	Indo-China; Africa.
*L. pallidus B. & C.	Indo-China; Africa.
Lenzites applanata Fr.	Indo-China; Africa; Neotropica.

## POLYPORACEÆ

*Polyporus adustus Fr.	Universal.
Fomes rugosus Nees	Indo-China; Neotropica.
*F. lucidus Fr.	Universal.
Polystictus sacer Fr.	Indo-China; Africa.
P. sacer var. juruensis P. Henn.	Neotropica.
P. xanthopus Fr.	Indo-China; Africa; Neotropica; Oceania.
P. flabelliformis Klotzsch	Indo-China; Africa; Neotropica; Oceania.
*P. carneo-niger Berk.	Oceania.
Hexagonia Deschampsii Hariot	Indo-China.
*Favolus brasiliensis Fr.	Indo-China; Nearctica; Neotropica; Africa; Oceania.

## THELEPHORACEÆ

Stereum elegans Mey.	Indo-China; Africa; Neotropica; Oceania.
S. involutum Klotzsch	Africa.
*S. versicolor Fr.	Africa; Nearctica; Neotropica; Oceania.
S. lobatum Fr.	Indo-China; Nearctica; Neotropica.

## CLAVARIACEÆ

*Lachnocladium semivestitum B. & C.	Nearctica.
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\* Species thus indicated were included in a previous consignment which was worked out at Kew by Miss E. M. Wakefield.



*Gasteromycetes.*

NAME.	DISTRIBUTION.
<i>Dictyophora phalloidea</i> Desv.	Indo-China; Africa; Neotropica; Oceania.
<i>Geaster fimbriatus</i> Fr.	Universal.

## HYPHOMYCETES.

## STILBACEÆ

<i>Gibellula phialobasia</i> Penz. & Sacc.	Indo-China.
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## LICHENS.

By Miss A. LORRAIN SMITH, F.L.S.

NAME.		DISTRIBUTION.
COLLEMACEÆ		
<i>Leptogium bullatum</i> Nyl.	—	Oceania; Neotropica.
USNEACEÆ		
<i>Usnea angulata</i> Ach. subsp. <i>goniodes</i> Wain.	Niaji Peak, 2000 ft.	Palæarctica; Africa; Neotropica.
<i>U. articulata</i> Hoffm.	Niaji Peak, 2000 ft. & 3000 ft.	Africa; Oceania; Neotropica.
<i>U. arthroclada</i> Fée subsp. <i>arthrocladodes</i> Wain.	Nkami, 2000 ft.	Africa.
<i>U. dasypoga</i> Fr.	Niaji Peak, 3000 ft.	Universal.
<i>U. florida</i> Hoffm.	Niaji Hill.	Universal.
do. var. <i>australis</i> Wain.	Niaji Peak, 2000 ft.	Oceania; Africa.
<i>U. rigida</i> Wain.	Niaji Peak, 2000 ft.	Africa.
<i>Ramalina calicaris</i> Fr. var.	—	Universal.
PARMELIACEÆ		
<i>Parmelia Hildebrandtii</i> Krempelh.	Nkami.	Africa.
<i>P. melanothrix</i> Wain.	—	Africa; Neotropica.
<i>P. olivetorum</i> var. <i>esorediata</i> Wain.	Nkami, 500 ft.	Africa.
<i>P. latissima</i> Fée	Nkami, 500 ft.	Palæarctica; Africa; Oceania; Neotropica.
<i>P. relicina</i> Fr.	Niaji Peak, 2000 ft.	Africa; Oceania; Neotropica.
PHYSICIACEÆ		
<i>Physcia leucomela</i> Mich.	—	Universal.
CÆNOGONIACEÆ		
<i>Cænogonium Linkii</i> Ehrenb.	—	Oceania; Neotropica; Indo-China.
PYRENULACEÆ		
<i>Pyrenula gibberosa</i> Wain.	—	Africa.



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- PLATE 17. *Lentinus Tuber-regium* Fr.

# PLATES







## EXPLANATION OF PLATE 1

*Alphonseopsis parviflora* Bak. fil.

1. Portion of branch  $\times \frac{2}{3}$ .
2. Flowers, natural size.
3. Calyx, back view,  $\times 2$ .
4. Calyx and receptacle  $\times 2$ .
5. One of the lower stamens  $\times 8$ .
6. One of the higher stamens  $\times 8$ .
7. Carpel and stigma  $\times 8$ .
8. Carpel cut lengthwise, shewing ovules,  $\times 8$ .

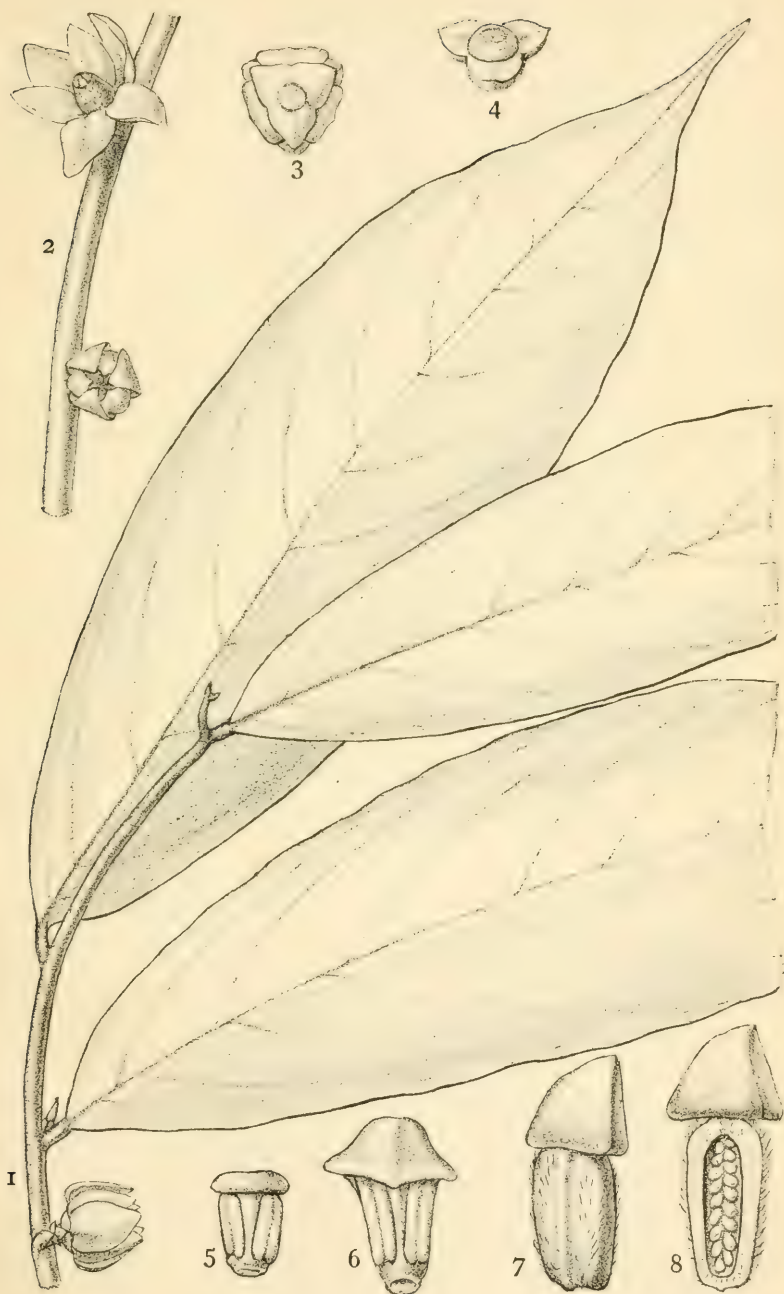


## EXPLANATION OF PLATE 1

*Alphouseopsis parviflora* Bak. fil.

1. Portion of branch  $\times \frac{2}{3}$ .
2. Flowers, natural size.
3. Calyx, back view,  $\times 2$ .
4. Calyx and receptacle  $\times 2$ .
5. One of the lower stamens  $\times 8$ .
6. One of the higher stamens  $\times 8$ .
7. Carpel and stigma  $\times 8$ .
8. Carpel cut lengthwise, shewing ovules,  $\times 8$ .





*Alphonseopsis parviflora* Bak. fil.





## EXPLANATION OF PLATE 2

*Dennettia tripetala* Bak. fil.

1. Portion of branch, natural size.
2. Calyx and receptacle, natural size.
3. Flower after removal of perianth  $\times 2$ .
4. Stamen  $\times 8$ .
5. Carpel  $\times 8$ .
6. Carpel cut lengthwise, shewing ovules,  $\times 8$ .





*Dennettia tripetala* Bak. fil.





### EXPLANATION OF PLATE 3

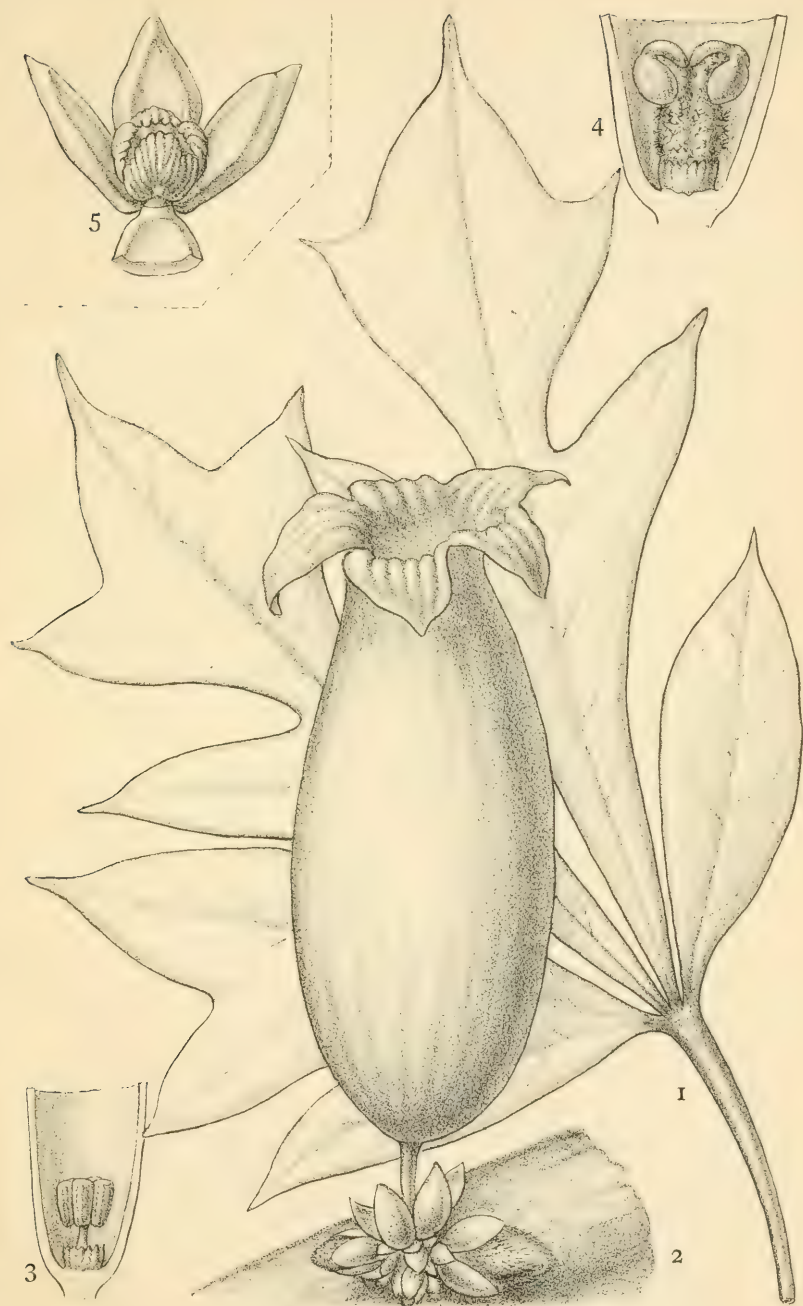
*Cola gigas* Bak. fil.

1. Leaf  $\times \frac{1}{3}$ .
2. Flower and young flower-buds springing from stem, natural size. (From a drawing by Mrs. Talbot.)
3. Base of male flower laid open, shewing synandrium.
4. Base of female flower laid open, shewing carpels,  $\times 2$ .

*Cola schizandra* Bak. fil.

5. Flower  $\times 2$ .





1-4, *Cola gigas* Bak. fil. ; 5, *C. schizandra* Bak. fil.



# REVELATION OF EPATE 4

1. End of leaf-branch  $\times \frac{1}{2}$

1. End of leaf-branch  $\times \frac{1}{2}$
2. Portion of stem showing flower and fruit, natural size. (From a drawing by Miss J. H. H.)

2. End of leaf-branch  $\times \frac{1}{2}$

2. End of leaf-branch  $\times \frac{1}{2}$
3. Inflorescence, natural size.

## EXPLANATION OF PLATE 4

*Napoleona Talbotii* Bak. fil.

1. End of leaf-branch  $\times \frac{1}{3}$ .
2. Portion of stem shewing flower and fruit, natural size. (From a drawing by Mrs. Talbot.)

*Napoleona Egertonii* Bak. fil.

3. End of leaf-branch  $\times \frac{1}{3}$ .
4. Inflorescence, natural size.



1, 2, *Napoleona Talbotii* Bak. fil.; 3, 4, *N. Egertonii* Bak. fil.





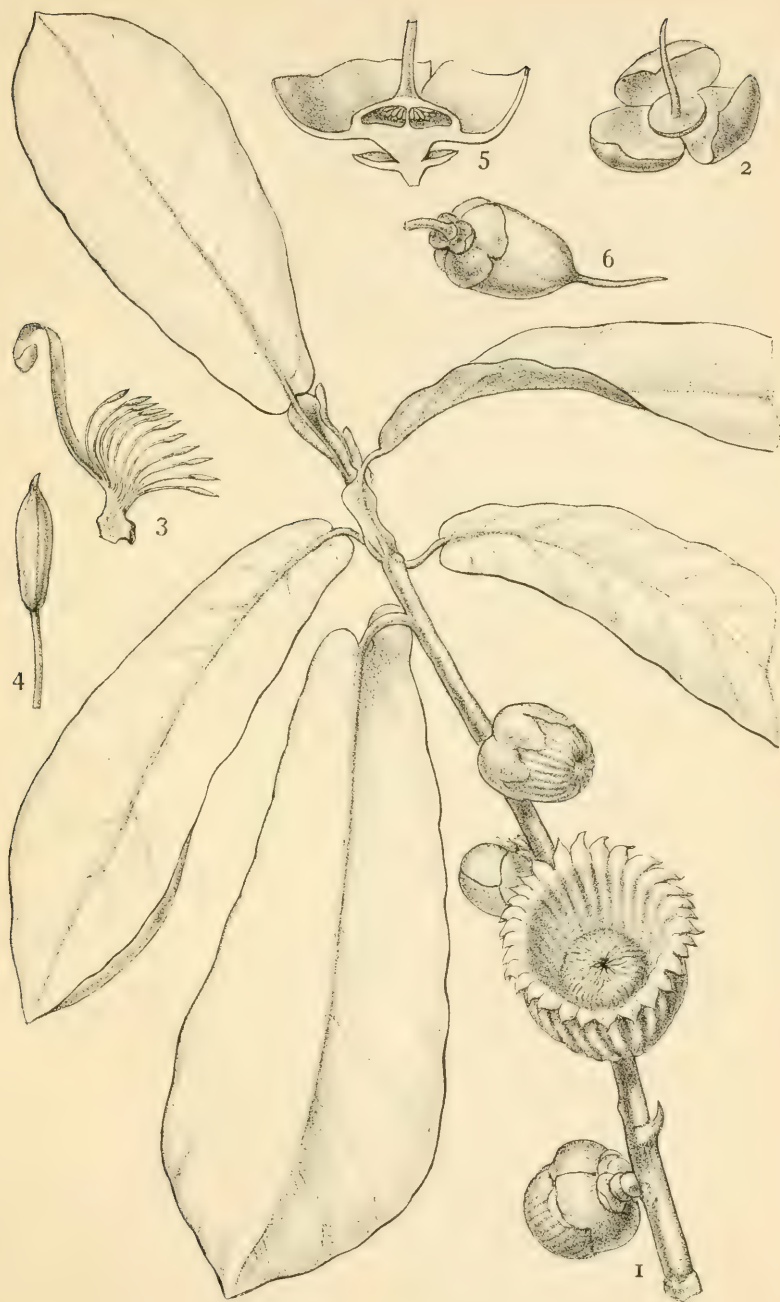
## 573677-100% OF 1774 2

At 2500 ft. 2000 ft. 1500 ft. 1000 ft. 500 ft. 0 ft.

## EXPLANATION OF PLATE 5

*Crateranthus Talbotii* Bak. fil.

1. Portion of branch  $\times \frac{1}{2}$ .
2. Calyx  $\times \frac{1}{2}$ .
3. Section shewing insertion of stamens, natural size.
4. Stamen  $\times 5$ .
5. Section of ovary, natural size.
6. Fruit  $\times \frac{1}{2}$ .



*Crateranthus Talbotii* Bak. fil.



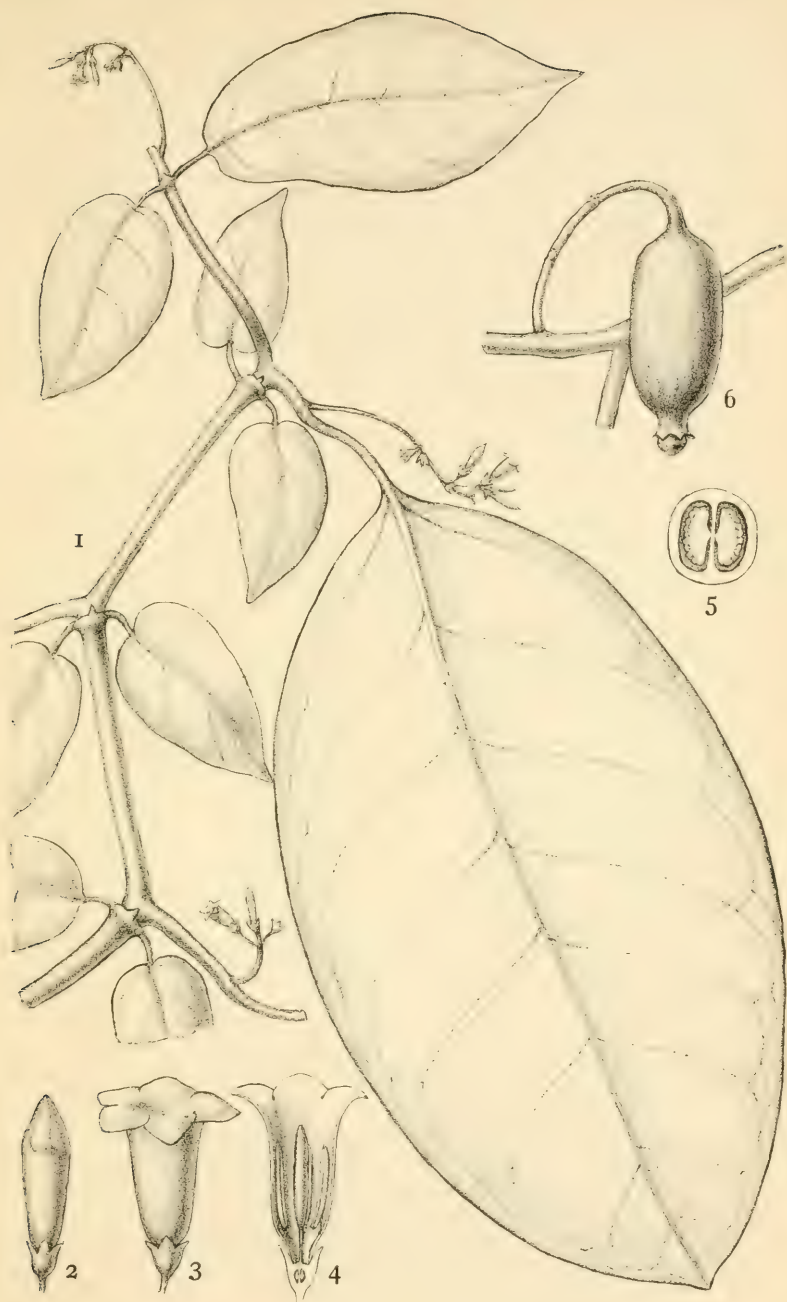




## EXPLANATION OF PLATE 6

*Afrohamelia bracteata* Wernham

1. Portion of plant  $\times \frac{2}{3}$ .
2. Flower-bud  $\times 2$ .
3. Flower  $\times 2$ .
4. Flower in longitudinal section  $\times 2$ .
5. Ovary in transverse section  $\times 8$ .
6. Fruit, natural size.



*Afrohamelia bracteata* Wernham







## EXPLANATION OF PLATE 7

*Dorothea Talbotii* Wernham

1. Portion of plant, natural size.
2. Longitudinal section of ovary, shewing calyculus,  $\times 2$ .



Dorothea Talbotii Wernham



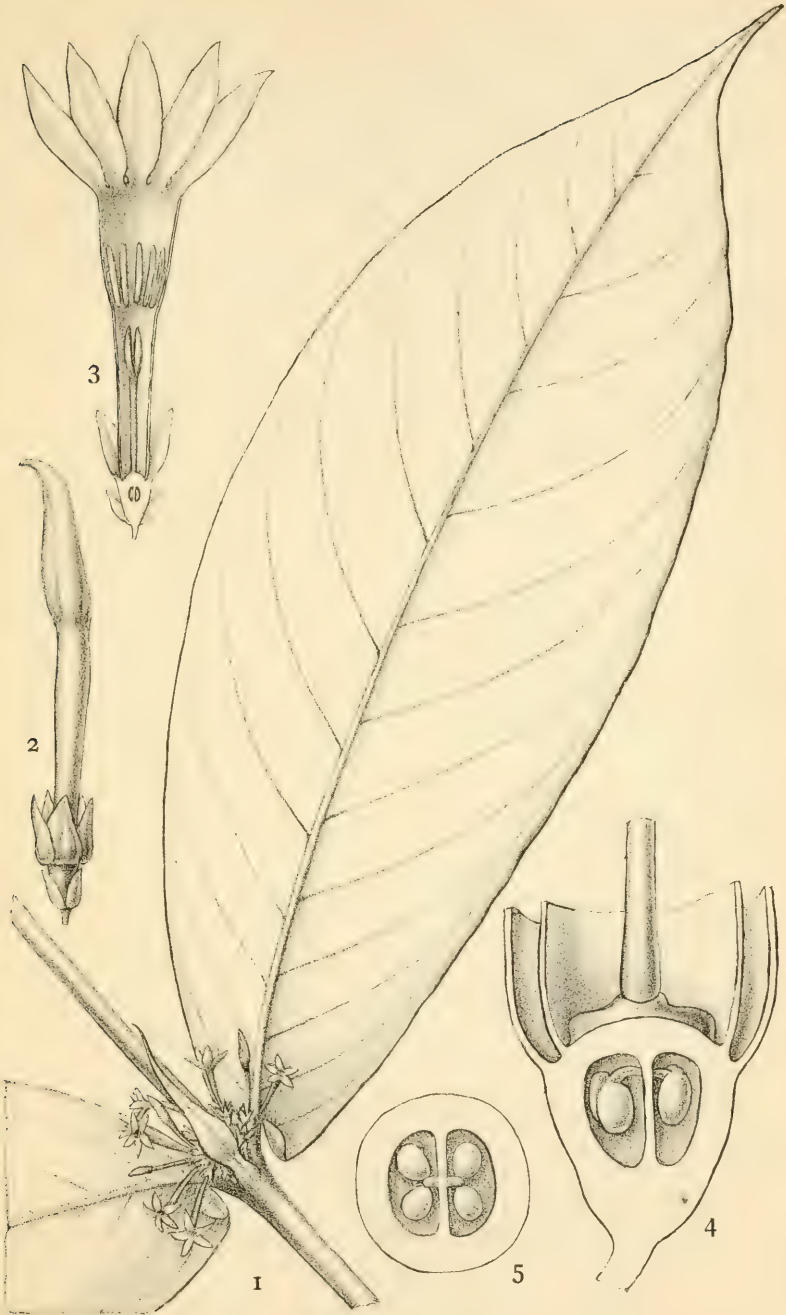


## EXPLANATION OF PLATE 8

*Diplosporopsis coffeoides* Wernham

1. Portion of plant  $\times \frac{1}{2}$ .
2. Flower-bud  $\times 2$ .
3. Flower in longitudinal section  $\times 2$ .
4. Ovary in longitudinal section  $\times 10$ .
5. Ovary in transverse section  $\times 10$ .





*Diplosporopsis coffeoides* Wernham





## EXPLANATION OF PLATE 9

*Globulostylis Talbotii* Wernham

1. Portion of plant, natural size.
2. Flower-bud  $\times 2$ .
3. Flower-bud in longitudinal section  $\times 4$ .
4. Flower  $\times 2$ .
5. Ovary in transverse section  $\times 6$ .
6. Style  $\times 3$ , shewing the globe, *a*.



*Globulostylis Talbotii* Wernham







## EXPLANATION OF PLATE 10

*Scyphostrychnos Talbotii* S. Moore

1. Portion of plant  $\times \frac{1}{2}$ .
2. Small portion of inflorescence  $\times 2$ .
3. Flower, shewing the "corona,"  $\times 2$ .
4. Flower in longitudinal section  $\times 4$ .



*Scyphostrychnos Talbotii* S. Moore





## EXPERIMENTAL RESULTS

### 1. General remarks on the results

1. The first of the results obtained is that the
2. second and third results are very close to the
3. first one.
4. The fourth and fifth results are also very
5. close to the first one.
6. The sixth and seventh results are also very
7. close to the first one.

### 2. Detailed description of the results

1. The first result is that the

## EXPLANATION OF PLATE 11

### *Talbotia radicans* S. Moore

1. Portion of plant, natural size.
2. Bract with bracteoles etc. seen from the axial side  $\times 3$ .
3. Corolla opened lengthwise  $\times 2\frac{1}{2}$ .
4. A two-celled and a one-celled anther  $\times 8$ .
5. Pollen-grains  $\times 150$ .
6. Ovary shewing one of the cells opened longitudinally  $\times 10$ .

### *Aristolochia Talbotii* S. Moore

7. Flower, natural size.



1—6, *Talbotia radicans* S. Moore  
7, *Aristolochia Talbotii* S. Moore







## EXPLANATION OF PLATE 12

### *Bulbophyllum Buntingii* Rendle

1. Flower  $\times 8$ .
2. Lip viewed from above  $\times 16$ .
3. Lip viewed from the side  $\times 16$ .

### *Bulbophyllum nigritianum* Rendle

4. Foot of column with lip viewed from the side  $\times 16$ .
5. Same viewed from above  $\times 16$ .

### *Bulbophyllum Talbotii* Rendle

6. Flower  $\times 8$ .
7. Petal  $\times 16$ .

### *Bulbophyllum Dorotheae* Rendle

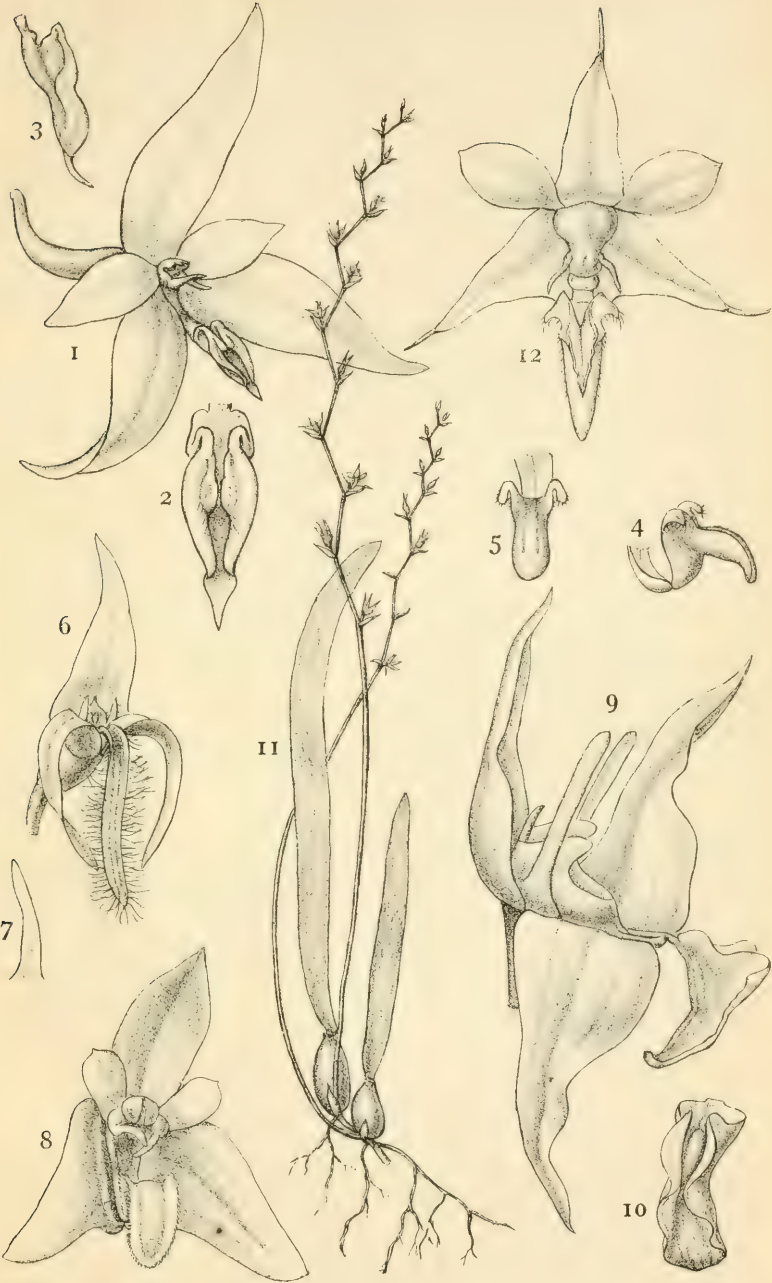
8. Flower  $\times 8$ .

### *Bulbophyllum obanense* Rendle

9. Flower  $\times 8$ .
10. Lip viewed from above  $\times 10$ .

### *Bulbophyllum Amauryae* Rendle

11. Portion of plant, natural size.
12. Flower  $\times 8$ .



Bulbophyllum species





## EXPLANATION OF PLATE 13

### *Polystachya obanensis* Rendle

1. Inflorescence, natural size.
2. Lip  $\times 4$ .

### *Polystachya Dorotheae* Rendle

3. Flower  $\times 2$ .
4. Lip  $\times 4$ .

### *Polystachya nigerica* Rendle

5. Plant, natural size.
6. Flower  $\times 4$ .
7. Lip viewed from above  $\times 10$ .
- 8, 9. Side views of lip  $\times 10$ .

### *Polystachya seticaulis* Rendle

10. Plant, natural size.
11. Flower  $\times 8$ .
12. Lip  $\times 10$ .





Polystachya species





## EXPLANATION OF PLATE 14

### *Angraecum obanense* Rendle

1. Leaf, natural size.
2. Flower  $\times 5$ .

### *Angraecum muriculatum* Rendle

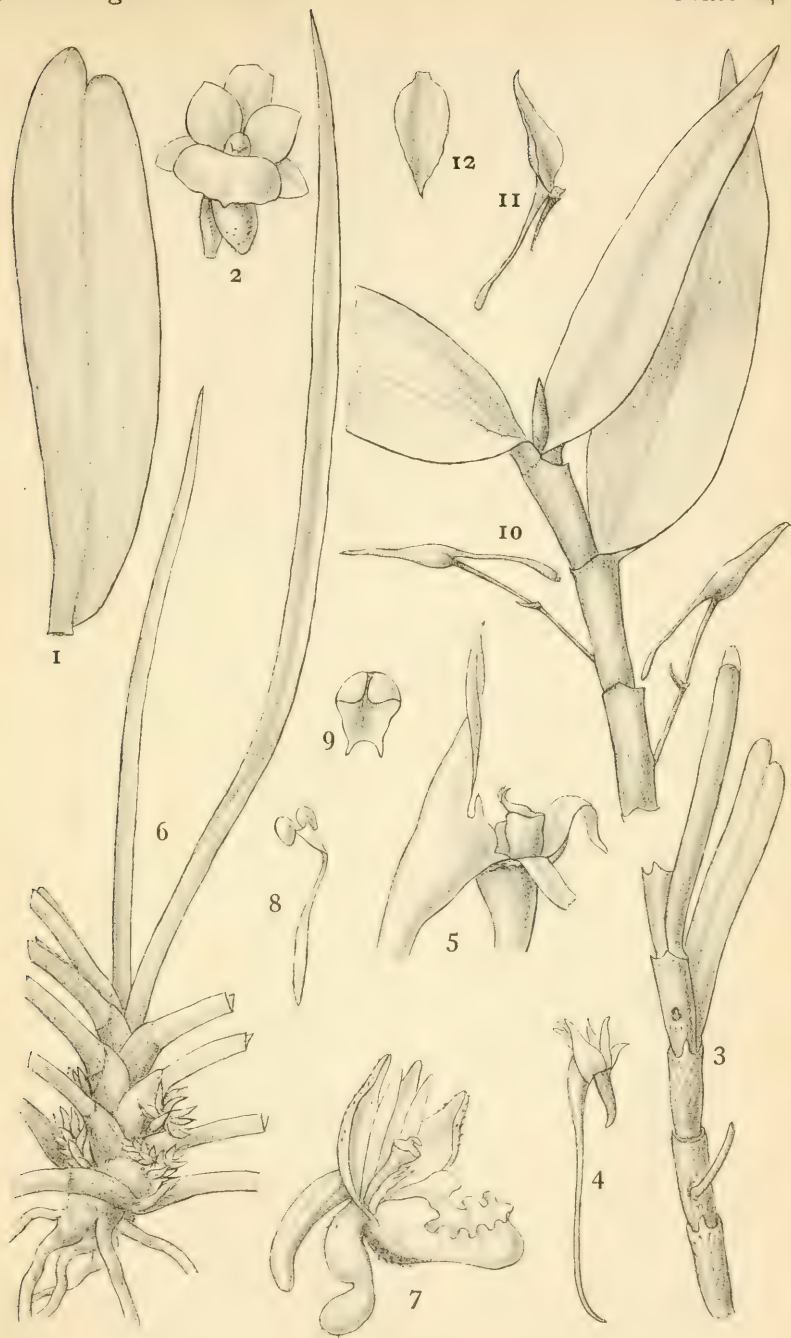
3. Portion of shoot, natural size.
4. Flower, natural size.
5. Portion of flower shewing dorsal sepal, lip and column  $\times 4$ .

### *Angraecum brunneo-maculatum* Rendle

6. Portion of plant, natural size.
7. Flower  $\times 5$ .
8. Pollinium  $\times 8$ .
9. Anther  $\times 8$ .

### *Angraecum angustipetalum* Rendle

10. Portion of shoot, natural size.
11. Lip and spur, side view, natural size.
12. Lip, front view, natural size.



*Angraecum* species





THEORY OF THE EARTH

CHAPTER I

- 1. Definition of the earth
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CHAPTER II

- 3. The earth and the atmosphere
- 4. The earth and the hydrosphere
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- 8. The earth and the human environment
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CHAPTER V

- 10. The earth and the universe
- 11. The earth and the future of the universe

## EXPLANATION OF PLATE 15

### *Angraecum Egertonii* Rendle

1. Portion of plant, natural size.
2. Flower  $\times 2$ .

### *Angraecum Dorotheae* Rendle

3. Leaf and flower-spike, natural size.
4. Flower  $\times 2$ .
5. Lip  $\times 4$ .

### *Angraecum Talbotii* Rendle

6. Plant, natural size.
7. Flower  $\times 10$ .

### *Platylepis Talbotii* Rendle

8. Flower after removal of one lateral sepal  $\times 4$ .
9. Lip viewed from above  $\times 4$ .

### *Habenaria Buntingii* Rendle

10. Flower  $\times 2$ .
11. Column  $\times 8$ .



1-7, *Angraecum* species ; 8, 9, *Platylepis Talbotii* Rendle

10, 11, *Habenaria Buntingii* Rendle







## EXPLANATION OF PLATE 16

*Amauriella obanensis* Rendle

1. Leaf  $\times \frac{1}{2}$ .
2. Inflorescence, natural size.
3. Spadix  $\times 2$ .
4. Two male flowers viewed from side  $\times 16$ .
5. Same seen from above  $\times 16$ .
6. Pistil viewed from side  $\times 16$ .
7. Pistil cut lengthwise  $\times 16$ .
8. Pistil cut transversely  $\times 16$ .
9. Pistil viewed from above  $\times 16$ .
10. Ovules  $\times 32$ .



*Amauriella Talbotii* Rendle







## EXPLANATION OF PLATE 17

### *Lentinus Tuber-regium* Fr.

1. Section of sclerotium with developing sporophores  
 $\times \frac{1}{2}$ .
2. Sporophores at later stage  $\times \frac{1}{2}$ .
3. Pileus reversed to shew squamules  $\times \frac{1}{2}$ .
4. Sclerotium with one large and eight small  
sporophores  $\times \frac{1}{2}$ .



*Lentinus Tuber-regium* Fr.









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